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CATALOGUE

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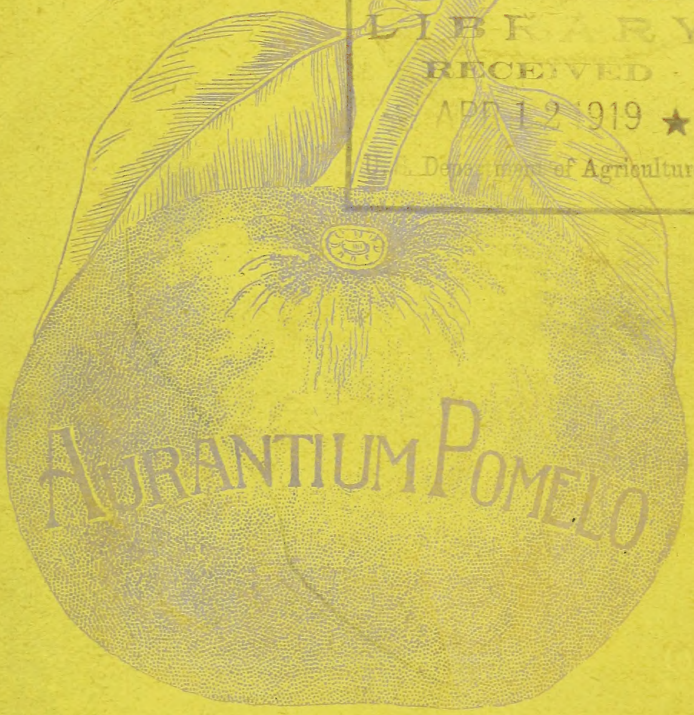
MANUAL



ORLANDO NURSERIES,

ORLANDO, FLORIDA.

Price, 10 cents.

James Mott, Proprietor.

GREVILLEA ROBUSTA. (See page 49.)

ORDER SHEET.

JAMES MOTT,

Orlando Nursery, Orlando, Florida.

Name ..... *Post Office* .....

State ..... *Amount enclosed, $* .....

Date *189*

IMPORTANT.—Be sure to write name and post office plainly, and direct how to ship.

NO. 3 to 4 feet	NO. 4 to 6 feet		Dol	Cts.
		Citrus Trees.		
		GRAPE FRUIT.		
		Dollins		
		Hart's Improved		
		Aurantium Pomelo		
		ORANGES.		
		Kin Kan		
		Boone's Early		
		Tangierine		
		King		
		Satsuma		
		Mandarin		
		Mott's Blood		
		Maltese Blood		
		Homosassa		
		Parson Brown		
		Bessie		
		Tardiff		
		Riverside Navel		
		Sims' Summer		
		LEMONS.		
		Bonnie Brae		
		Belair		
		Villa Franca		
		Peaches.		
		Mott's Free		
		Bidwell's Early		
		Bidwell's Late		
		Waldow		
		Angel		
		Early Arlington		
		Reeves' Mam'th		
		Apples.		
		Trausardie Crab		
		Pears.		
		LeConte		
		Keiffer		
		Plums.		
		Kelsey		
		Botan		
		Chabot		

NO. 3 to 4 feet	NO. 3 to 4 feet		Dol	Cts.
		Apricot.		
		DeLand		
		Persimmons.		
		Triumph		
		Zingi		
		Hyakume		
		Tananashi		
		Yemou		
		Quince.		
		Chinese		
		Champion		
		Pecan.		
		Paper Shell,		
		Japan Plum		
		Cayenne Cherry		
		Mulberry.		
		Chas. Downing		
		Figs.		
		White Adriatic		
		Brown Turkey		
		California Black		
		Grapes.		
		Niagara		
		Early Dawn		
		Concord		
		Ives' Seedling		
		Delaware		
		Pine Apples.		
		Smooth Cayenne		
		Abbakachii		
		Ripley Queen		
		Shade Trees.		
		Texas Umbrella		
		Australian Oak		
		Hibiscus, three kinds		
		Magnolia Fuscata		
		Chinese Golden Arbor-Vitæ		
		Cape Jessamine		

NO. 3 to 4 feet	NO. 4 to 6 feet		Dol	Cts.
		Poinsettia		
		Oleander		
		Royal Poinciana		
		Roses.		
		Marechal Niel		
		Cloth of Gold		
		Etoile de Lyon		
		La France		
		Devoniensis		
		Mrs. Jos Swartz		
		Thera Starvens		
		Mrs Jean Sisley		
		Washington		
		Zelia Pradel		
		Mrs. John Laing		
		Her Majesty		
		Bessie Johnson		
		Mad. Lambard		
		Mad. Camille		
		Duchess de Brabant		
		Bon Silene		
		Papa Gontier		
		Gen. Jacqueminot		
		La Reine		
		Louis Philippe		
		Magna Charta		
		Blanche de Meru		
		Bananas.		
		Hart's Choice		
		Cavendishii		
		Giant Bamboo		
		Mango.		
		Apricot Mango		
		Spotted "		

JAMES MOTT,
Proprietor Orlando Nurseries.

To My Patrons.

EARLY orders solicited. In sending early orders, you are surer of varieties and sizes wanted. Cash with order, or C. O. D. by express. In ordering C. O. D., send one-fourth cash with order. Remittances may be made by Express, Money Order, Registered Letter, or Bank Draft. Plain and specific directions should be given **how to ship, route, etc.** No responsibility will be assumed by me after proper shipment; on the contrary, it must be distinctly understood that all articles, after leaving my hands in good condition, are entirely at the risk of the purchaser.

I take great care in packing, and with reasonable handling my packages will endure the longest journey in perfect safety. I am careful that stock shall be true to name. In case errors should occur in labeling, I will replace any trees thus wrongly named, or refund the price; but this guarantee is to go no further, and we so mutually agree. I do not give any warranty, express or implied. To guarantee would make me liable for your carelessness; therefore, all complaints must be made within ten days of receipt of goods. The many years' experience I have had in handling trees tells that I know how. No charge for packing and delivering trees at railroad depot or express office. Correspondents will please write their post-office, county and state as plainly as possible.

To all wishing to plant trees, I am glad to give all the information I am able to do regarding their culture, in the many important points with which most of our planters, not having made it a study, are unacquainted. My trees will be ready to go out December 1st.

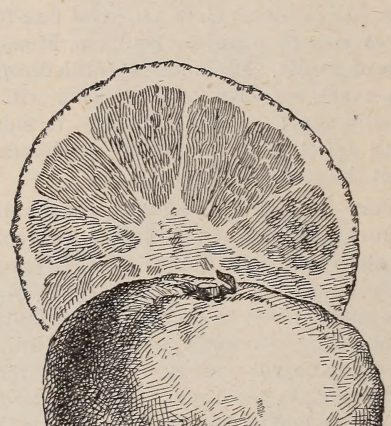
Referring to "Profits," my idea is to get my profit from the unusual growth, and not from the low prices at which I shall sell.

I appreciate your past trade, and want more of it, and realize that it can only be secured and held by fair treatment and good goods.

Very truly yours,

JAMES MOTT,
Orlando, Florida.

November, 1894.



HISTORY OF THE ORANGE.

BITTER ORANGE (*Citrus vulgaris*).

Its origin, as to any one special country, is somewhat in doubt. One writer says: "There is every probability that the eastern region of India was its original country. Sir Joseph Hooker saw the bitter orange, certainly wild, in several districts to the south of the Himalayas, and Garwal and Sikkim as far as Phasia," and it is thought the same orange is wild in Cochin China and China.

The Crusaders saw the bitter orange tree in Palestine. It was introduced into Spain by the Arabs, and likely also into the east of Africa. The opinion generally prevails that we are indebted to the early Spanish settlers or explorers for its introduction into this country, where we now find it growing wild from well South in Florida to as far North as Brunswick, Georgia.

SWEET ORANGE (*Citrus aurantium dulcis*).

Its history would make it of later introduction and culture than the bitter-sweet orange; in its wild state it is not found over so large a section. De Candolle says: "From collected facts it seems that the sweet orange is a native of China and Cochin China, with a doubtful and accidental extension of area by seed into India."

Up to the fifteenth century Arabian books and chronicles only mention the bitter or sour orange. However, when the Portuguese arrived in the islands of Southern Asia they found the sweet orange, and apparently it had not previously been unknown to them. Writers in the beginning of the sixteenth century speak of the sweet orange as a fruit already cultivated in Spain and Italy, and as we find it (but not often) in a wild state in our hammocks, it is presumable that it was brought to us also from Spain.

MANDARIN ORANGE (*Citrus aurantium nobilis*).

This was new to European gardens at the beginning of the present century. According to Kurz, the species is only cultivated in British Burmah, and from best information its area is restricted to Cochin China and a few provinces of China.

THE SHADDOCK OR GRAPE FRUIT (CITRUS DECUMANA).

Its culture has been extended over a very wide range of country, often in a wild state. One naturalist (Seeman) says: "It is extremely common about the Fiji Isles, and covering the banks of the rivers." De Candolle says: "In China the species has a simple name, Yu, but its written character appears too complicated for a truly indigenous plant." It is said to be common in China and Cochin China, and that in the islands to the east of the Malay Archipelago the clearest indications of a wild state are found.

"Shaddock was the name of a captain who first introduced the species into the West Indies." The names pomelo and grape-fruit are more than likely local names given it since it came to Europe. Pome is the name of any fruit the inside of which is divided. Webster says, "a fleshy or pulpy pericarp," which is very marked in this fruit. The name grape-fruit likely comes from the form the fruit takes on the tree, being produced in clusters, often 20 or more of the fruit in a bunch; it is surprising the loads of fruit this tree will produce. There are three distinct forms, though, while they are all shaddocks, the names of them have somehow become divided; the larger form is called pomelo, then shaddock, and the smaller strain grape-fruit. One is called pink shaddock, from the red color, both of skin and fruit. I am at a loss to know whether this was one of the distinct forms imported by Capt. Shaddock, as De Candolle, in his "Origin of Cultivated Plants," makes no mention of it. While I have no data, I think its introduction is later than that of the orange, as in no case have I found the grape fruit wild, which is the case with both the sweet and bitter sweet oranges.

There have been several importations, from India and other sections, since the real settlement of this country, but in no case have I found them to be improvements over those first introduced. There have been, however, very decided improvements of our own origin in the last decade. The form in some instances has become somewhat changed; the size less, skin thinner, with less seed and rag, and the quality changed from the pungent acid of the old form to that of a "delicious," sweet fruit. All of these, so far as I have seen, are chance seedlings, and some of them, after it was found that they were better, have been more or less preserved by budding.

I am very much inclined to the belief that often they are accidentally crossed with the orange. One I might mention, the *Aurantium*

pomelo, as the name implies, partakes of both the sweet orange and the shaddock. It is said to have been an orange seed that produced it. The tree takes the form of the orange, while the fruit is produced in clusters; in form not quite so much flattened, but it is that of the grape-fruit. In quality, to many tastes, it is superior to the orange. The bitter principle of the shaddock is retained, but it is covered up with the sweets and acids, and so nicely blended that it makes a fruit more rich, with a decided tone over that of the orange.

Should I attempt to account for these changes that have come since its introduction into this country, it would be speculative, yet, I believe, correct. Our very peculiar climate, that I know in other instances has brought about pomological changes that scientists of other sections have told us could not be, has caused this remarkable fruit to become crossed with the orange, until in it we have not only the health-giving principle of the parent grape fruit, that is so highly spoken of by our best physicians, but the luscious sweet orange of Florida.

In the markets for our oranges there is a rapidly increasing demand for the common grape-fruit, and I can but believe that with the introduction of these improved varieties, the demand will so increase that it will become more sought after than our famed orange.

NOTES ON THE GRAPE-FRUIT IN FLORIDA.

[*From "The Grove and Garden."*]

"Mr. J. R. McDonald, who lives six miles below Plant City, has the most wonderful grape-fruit tree in all Florida. The season just past Mr. McDonald received gross $293 for the fruit from this one tree, the net amount being $223.89. The tree is eleven and one-half (11½) feet in circumference, thirty feet high, and its branches cover an area of forty-three feet across." It is said to be 50 years old.

Another tree in Polk county produced, two years ago, 70 boxes, which were sold for a net price of $2 per box, making the tree yield $140. It is also said to be 50 years old.

A SEEDLESS POMELO.

[*From The Bartow Progress.*]

Mr. C. M. Marsh, the well known proprietor of the Lakeland Nurseries, is just now introducing to fruit growers a new strain of

grape fruit, or pomelo, which possesses the remarkable characteristic of being seedless. Mr. Marsh is one of those painstaking fruit growers, pursuing his experiments along scientific lines with unwearying patience and intelligent observation, to whom the state is so deeply indebted for many improvements in the quality, flavor and variety of our home-grown fruits. This newest development promises to make for itself a foremost place amongst our fruits. The grape-fruit, or pomelo, is rapidly growing in popularity in Northern, Western and foreign markets, and all who know the fruit will concede that it has qualities which fully justify its growing popularity. As at present known, it is an abundant seeder. The consumer, or the cook who prepares the food for the consumer, finds the seeds somewhat of a nuisance, and will at once recognize the advantage of getting rid of them. When it becomes known that, with the absence of the seed, the interior skin of the fruit becomes thinner, the juiciness increases, the flavor improves, and the fruit retains all its good qualities in an enlarged degree, fruit growers will be ready to acknowledge that Mr. Marsh has got hold of a valuable thing. The matter has now proceeded beyond the range of experiment into that of certainty, as Mr. Marsh has now young trees of the new variety in his nursery that are bearing abundantly, and all true to the strain. The pulp is somewhat darker than the ordinary grape-fruit, but the rind has that peculiar, bitter flavor which is so highly esteemed for medical purposes. The average size to which the fruit attains requires it to be packed 54 to 64 to the box.

CITRUS FRUITS.

TIME TO PLANT.

While, as is often said, we can plant an Orange tree here in Florida any day of the year, yet some days are better than others. All trees are best transplanted at a time when they are having a season of rest; and if we can catch the time when that rest is about over, and the tree is just ready to burst out into a new life, that is the best time to plant. I like winter planting, provided it is done early enough—so that the tree is at rest, and may get the benefit of our winter rains early in December. But to wait till spring, with the rapid growth on, and often our spring drouth about ready to set in, is, I consider, the poorest season of the whole year. I have had fine results in planting after the spring growth had stopped and the rains were beginning, and new growth was just ready to start. Further than this I cannot give any general instructions, only never to allow the water even to be dried off the roots of an orange tree. Never leave roots, even for a few minutes, exposed to sun or air. A large portion of our trees are killed or permanently injured through the ignorance of the man who plants. Not only are roots dried up, but a little hole is dug and the roots crooked around to fit it, and the tree ruined for all time.

I only propagate a few of the best known varieties, believing half a dozen varieties of those that are best are better for a money crop than a list that takes all of the different kinds that may have their advocates. The supply of orange trees is limited. The demand at home is much greater than before in five years, and prices here given are subject to change after January 1, 1895.

AURANTIUM POMELO.

This is a chance seedling, originating in Orange county, from an orange seed procured from the noted Dummitt orange grove on Indian river, and the most valuable acquisition to the citrus family yet grown. Skin thin, less rag (or core); in quality sweet and very fine, with just enough of the bitter principle to prove that it is of the grape-fruit. The past winter the fruit sold in Chicago, netting the grower $2.30 a box, while his common grape-fruit, same consignment, brought $1.20 a box. As it comes more into use, I shall expect it always to outsell *any other* of the citrus fruits. It is, therefore, a good thing to plant largely of for profit, and those who plant first will make the most. Extra size trees, 50 cts. each; 2-year buds, 1¼-inch stocks, $40 per 100.

SEEDLESS GRAPE-FRUIT.

Origin, Polk County, Florida, from seed of the common grape-fruit; is without seeds, which, together with its thin skin, glossy, smooth appearance and excellent quality, makes it a very desirable acquisition to our list of citrus fruits. First-class trees, 75 cts. each, $50 per 100.

HART'S IMPROVED GRAPE-FRUIT.

In general appearance of tree and fruit the same as *Aurantium pomelo*, in taste not quite so sweet. For people who like an acid fruit without the bitter of the common grape-fruit, it is a very desirable acquisition. Trees, first-class, 50 cts. each, $40 per 100.

DOLLINS GRAPE-FRUIT.

A decided improvement on the common grape-fruit. Trees, first-class, 50 cts. each, $40 per 100.

COMMON GRAPE-FRUIT.

Trees, first-class, 40 cts. each, $35 per 100.

KIN KAN, OR KUMQUAT ORANGE.

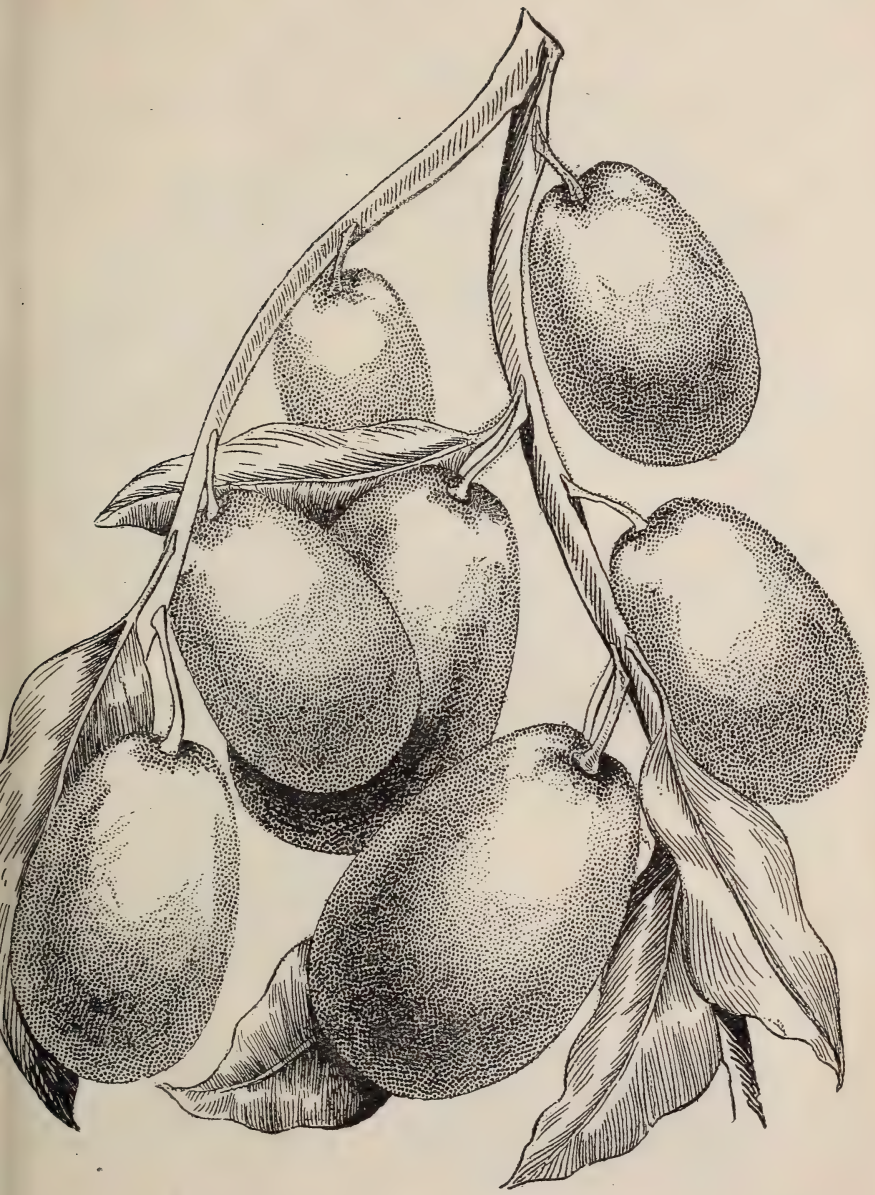
A native of Japan. Tree of dwarfish habit, a beautiful, compact head, fine foliage; when in fruit, very handsome; fruit is in clusters; is eaten from the hand without removing the skin; is fine, and much sought after for jams, preserves and pickles. Every one in Florida owning a piece of land should possess it. Trees, 1½ to 1¼ inches, 75 cts. each. (See cut, page 11.)

BOONE'S EARLY.

Of the oranges that have come to us in the last decade, Boone's Early is at the head of the list. It has many points to recommend it over all others. A month earlier than any other; is yellow and fully ripe the 10th of October; small size, thin skin, very little rag (or core); more fruits without seeds than with seeds. Very pretty, and most excellent in quality, and, ripening, as it does, a month ahead of *any other*, it is doubly valuable. For sections where there is danger from frost, not only for us here in Florida, but for all the Gulf coast country of Texas and Louisiana where oranges are grown, it must prove a valuable find. My trees of Boone's Early are mostly on sour stocks. Trees, 1¼ to 1½ inches, $50 per 100.

MOTT'S BLOOD.

A late importation from Calcutta, and the finest, so far, of my acquaintance. Small size, smooth, thin skin, showing blood inside and out; very pretty. Very few seeds, with little rag (or core), and most excellent in quality; holds on the tree till May. Trees, 1-year buds on 1-inch stocks, $40 per 100. (See cut, page 13.)



KIN KAN, OR KUMQUAT ORANGE. (See page 10.)

SIMMS' SUMMER.

A true *Citrus vulgaris*, found wild in the Apopka hammock, *without* the bitter of the common wild orange of our hammocks. Without doubt a cross—the sour orange with the sweet. The tree has the characteristic of being in fruit the year round, and it holds on the tree for months after fully ripe. The original tree now has both green and ripe oranges, and they are picked from it ripe, juicy and deliciously sweet any day in the year.

The fruit is more even in size, with a thinner skin than the old one, less rag and but *very few seeds;* and for home use, every garden where the wild orange will grow, from Tampa, Florida, to Brunswick, Georgia, and all the Gulf coast sections where oranges are grown, should possess it. It surely must prove valuable as a market variety. Only think of it—a ripe orange picked from the tree every morning before breakfast the year round! Trees, 2-year buds on ¼-inch stocks, 50 cts. each, $40 per 100.

SATSUMA.

This comparatively new orange is rapidly coming into favor. It belongs to the Mandarin class, with its earliness; the tree being more hardy, it is being sought after, particularly in sections of frost danger. Trees, on 1 to 1¼-inch stock, 40 cts. each, $35 per 100.

KING.

Or, as it is often called, "King of Siam." No orange yet grown in Florida can compete with the King as a fancy fruit, and I think it has been sold for higher prices than any other—whole crops bringing $7 per box net, the past spring. It is of the *Citrus nobilis* class (a "Kid Glove"), and with its glossy, highly colored skin, its beauty is most striking. It does not ripen till April, and at its proper season its quality is most excellent. Trees, 1-year buds, 75 cts. each, $50 per 100.

MANDARIN.

Is of the *Citrus nobilis* class, from Cochin China. As a dessert orange is much sought after, from the fact that the skin does not adhere to the pulp, and is easily removed with the fingers, as also the pulp is so divided in sections that they are parted easily, and one has the pleasure of eating a fine orange without losing a drop of the juice or soiling the hands. Trees, first-class, 40 cts. each, $35 per 100.

TANGERINE.

Of the same class as the Mandarin, with its beautiful, clear skin, red in color when fully ripe, and a peculiar flavor that is pleasant to most tastes. These "Kid Glove" oranges, as the Mandarin, Satsuma, Tangerine and King are called, are rapidly coming into use, taking the place of the *Citrus aurantium* class. The Tangerine sold for high prices the past season, even during the reign of low prices for oranges. Trees, first-class, $40 per 100.

MOTT'S BLOOD ORANGE. (See page 10.)

PARSON BROWN.

Termed a Florida orange; its earliness makes it much sought after; next to Boone's Early and Satsuma, it is the most valuable of the early oranges. Trees, first-class, $35 per 100.

NAVEL.

Riverside Navel carries its trade-mark with it, and is known as a superior orange; it is a very shy bearer, unless when budded to the sour orange or the French lemon stocks. Trees on Rough lemon stocks, first-class, $35 per 100.

TARDIFF.

Is too well known to need description; its lateness makes it so far the most profitable orange. Hon. Dudley W. Adams sold 11 boxes in the market July 2, which netted him, f. o. b., $10 per box. Trees, first-class, $35 per 100.

MALTESE BLOOD.

Mr. Thomas Rivers, speaking of it, remarks: "Maltese Blood takes the first rank." Trees, first-class, $35 per 100.

MEDITERRANEAN SWEET.

One of our most profitable oranges; bears very young and very fully, that one known as Sanford's Mediterranean holding on the tree till late in the season. In my opinion, it stands several degrees more cold than the common orange. Trees, first-class, $35 per 100.

SOUR ORANGE SEEDLINGS. $3 per 1,000.

GRAPE-FRUIT SEEDLINGS. $5 per 1,000. Write for prices on large lots.

LEMONS.

Belair and **Villa Franca.** 2-year buds on 1 to 1¼-inch stock, $35 per 100.

Bonnie Brae. It is new to me. I procured the buds from California. To me it seems the finest of all the lemon family. Small size, round, symmetrical; skin very thin; full of a delicate, pleasing juice. Trees, 75 cts. each.

LIME.

Tahiti. An imported variety, that cannot be too highly recommended; tree a rapid grower and an early and heavy bearer; fruit large size, very thin skin, acid, strong and rich. This fruit scored 94 points at the South Florida Exhibition last February, the highest of any citrus fruit on exhibition. It is as hardy to withstand cold as the sweet orange. 40 cts. each.

ORANGE CULTURE IN FLORIDA.

There are many different ideas of raising oranges here in Florida, and it seems almost as though each planter is trying to put in practice his own peculiar plan, be it what it may. I often think that the orange will stand more abusive treatment (often "manslaughter in the second degree," not with "malice prepense," but from ignorance of the laws of physical botany) than any other fruit-bearing tree, or we would hear yet more of that oft-repeated tale, "Oranges don't pay."

With many, the ground must be kept clean, no grass or weeds left to grow, but all the time kept smooth. The pruning saw and shears play a very important part, and more often in the hands of some one who is as ignorant as a "man-eater of the Nile" of why a tree has roots, why bark, and why leaves; entirely ignorant of all the laws of the growth of plants. The tree is trimmed up, and then it is trimmed down; it is "thinned out to let in the sun and air;" the top is opened up, for fear there are too many branches; and often when the tree has gone through this whittling away of its life, I will call it, there is but little left of it. All it can do is to try and recover from this murderous attack; but before it gets back again to full strength the operation is repeated, and the man who is so anxious to raise oranges looks on his helpless tree and wonders why it doesn't grow better, and why he gets little or no fruit. As with the case of many planters, his money does not hold out, and he is not able to buy fertilizers, or he uses some cheap stuff, that does not manure his trees at all, so starvation sets in, and he finds a serious trouble from that source.

Now, there is a right way, as well as such a multitude of wrong ways, to do everything. We plant orange trees for fruit; it is very seldom they are for shade. A tree has roots, wood, bark, limbs and leaves. They all have their different offices to perform, and all are essential to the strength and vigor of the plant. Each of the little fibrous roots has its little mouth, that drinks up its food from the soil, and it is said that each little mouth has its part of leaf and twig to feed (this I know in part to be true). The sap is propelled upward on the same principle as is water with a force pump—a certain force for a certain height—increasing as it goes up, until the height is reached beyond which there is not strength enough to send it up further. The sap, in its watery state, as it goes up deposits whatever solids it con-

tains for the strength of the plant, and the water is thrown off into the atmosphere from one side of the leaf, while the other side is drinking in those elements that come from the air, passing down through the inner bark, depositing its carbon, of which the new wood is formed.

If this be true, can we not see that the lower the tree the easier is the circulation of its sap, and also how essential it is that the tree has all its leaves, not only to draw up its food from the soil, but that it may drink in from the breezes by day and the soft dews by night its carbon and some nitrogen, of which 90 per cent. of the tree is made!

DISEASES OF THE ORANGE.

This, to us in Florida, is an important question. Did I feel myself able to handle it intelligently, it would take a larger volume than this little pamphlet. But I will briefly hint at some of the diseases that are now making so much trouble with our planters. While the ideas I propose to advance are original with me, I hope the reader will not think I am assuming too much, but search it out, as I am trying to do.

The orange is a tree; in no sense can we call it a shrub. Often we find it here in our own state two and three feet in diameter; and what a beautiful, grand tree! With its branches often sweeping the ground, its countless little twigs and leaves of glossy appearance; and when laden with fruit (12.000 oranges on a single tree, as has been produced in this section), is it not most valuable, and worthy of our careful attention?

It is said there are trees in India that are known to be over seven hundred years old. I know cultivated specimens that are 75 years old, and of those wild in our hammocks, I have thought some to be two hundred or more years old. The student of physiological botany knows, without question, that a tree of such age and size does not belong to that class of plants called shrubs, and that the only way it can be made a dwarf of is to graft it on the trifoliata, or place it in a pot, where the roots are confined, and then it is comparatively short-lived. I must believe the close planting that we often see in groves (15 by 20 feet, or 15 feet apart) can only result, as I have seen, in a short life to the tree. When we thus go so contrary to all natural laws in making this large, majestic and long-lived tree become a dwarf, it is only a question of time that it becomes diseased, and death comes in.

The great scientist, Liebig, once remarked: "Soil does little else than hold trees and plants upright in place, while air and mositure feed them." The tree must have room according to its size; no matter what it is we plant, there must be soil enough to hold "it upright in place." The pasture—feeding ground—must be large enough to hold the drink and food supply; the roots must not come in contact with each other, and the branches need plenty of room to reach out and drink in the elements the free air so lavishly furnishes. I measured a tree in a grove 12 years planted, in this county, not long since, that had a spread of 31 feet, and yet those limbs are reaching out. Dudley W. Adams has on his grounds a tree with 35 feet spread of limbs, that is only 16 years old; and to tell me that if we want our trees to bear oranges, and continue for our children and their children, we shall plant 20 or 25 feet apart, is to say to me that I have learned nothing in my long life's study of the laws that govern these things.

I might mention the first grove of my acquaintance, that was planted for profit 53 years ago. Trees were set 21 feet apart. It has been a very profitable investment, turning off thousands and thousands of dollars' worth of oranges annually since I have known it; now it has foot-rot, and is nearly dead. Now, I must believe that had those trees been planted far enough apart, so that there was soil enough to "hold them upright in place," and that the limbs could have reached out as far as their nature chose, so there would be plenty of room on all sides for our winds to circulate, bringing with them the food of plants, they would not now be nearly dead with foot-rot, and that with intelligent culture they would have lived on and on —likely outliving generation after generation. Some planters are planting 40 and 50 feet apart. I have never found any old, isolated tree, or those wide-planted, with foot-rot. On the other hand, I have found many instances of this trouble in clumps of closely-planted trees. Often it would seem to break out in all victims at the same time. To me it seems to come from diseased sap, a weakened condition; as an M. D. would put it, low vitality, impoverished condition of the blood, as in the case of hives, shingles, or St. Anthony's fire. I have found it breaking out up along the trunk of the tree, the bark blistered and sap oozing out.

Foot-rot is the most perplexing question the grower has to contend with. Trees are subject to it in all sections where the orange is grown. Soil, I must believe, has much to do with it. We do know that

some soils are much better suited to the orange than others that we often see trees planted upon. It is also true that for some soils the bitter orange (*Citrus vulgaris*) is less subject to foot-rot than the sweet orange (*Citrus aurantium*). I argue from the fact, shown in a former page, that, as it is found wild over a much wider range of country than the sweet orange, it is a more hardy tree. I have thought that where trees were deeply planted they are more subject to this disease, and I do believe it the better plan to so plant and cultivate that the crown roots, as they enlarge, show some above the surface.

The so-called Florida Rough lemon ("French lemon") is much in favor as a stock for budding. The tree is found now wild in the hammocks of South Florida. I have found it on the lowlands and some of the most frosty spots in the south half of the state, and I believe it is as hardy as the sweet orange to withstand cold. It is often confounded with the Florida Everbearing and other lemons, none of which are suitable as stocks. It is a very vigorous grower, and trees budded to it come into bearing young; and there is something, I regret I cannot say what, that causes all trees budded upon it to bear better than when budded on either the bitter or sweet orange or grape-fruit. The shy-bearing Navel never fails to become a productive tree on the Florida Rough lemon. I have not seen it affected with foot-rot, yet I have not seen enough of it to justify me in saying that it does not have it.

Blight, that latterly is causing so much trouble, I believe is from the same cause. I have thought the soil was to blame for it all. The roots seem to find something that is not food for an orange tree. The tree may grow and do well for years, and yet when the time comes that the tree has taken up more of this poison than it can throw off, this "dry wilt" comes, and once a tree has it there in no cure. I have never seen one recover. True, I have seen trees where the diseased portion was taken away, and it seemingly recovered; but, though it may have gone on for a dozen years, looking pretty well, it never again produced a crop of fruit. The next tree to it in the grove, perhaps, we may find in perfect health. This condition I have found more particularly on shell hammock, or lands where the under soil was on Coquena rock.

Die-Back is from some poisonous substance in the soil. It is thought that too much ammoniated fertilizer causes it often, but there is little trouble from that source. Remove the cause, and the cure

comes; but where it is from some of the lower salts of iron in the lower soil, the remedy is to adopt a system of culture that will let the roots come up out of it; not plow or harrow at all, but mulch the ground with straw or any litter that will keep it loose and moist. I have known trees badly diseased—almost to death—recover fully under this treatment.

Trees, like animals, will often adapt themselves to very unfavorable conditions. The idea prevails that an orange tree needs—must have—a tap-root well down in the soil; yet I have taken up bearing trees that were quite healthy, with not a root in the soil over 8 inches.

FERTILIZING.

Here is a very important matter, if the planter expects to succeed, that needs well looking into—one that cannot be neglected. Our soil in Florida is lacking in humus, in potash and in everything, I may as well say, that plants take from the soil; and the planter who starts out with the idea that it is entirely lacking in them all, and acts from that standpoint, will not go far wrong. He must inform himself what is the food of plants. "Bone, blood and potash contain all the elements that plants take from the soil." The soil should contain from 5 to 7 per cent. of humus, that acts as a base for our fertilizer; and, as ours contains at best only 1 per cent., it is essential that by the application of muck (peat) or anything that will be converted into vegetable matter, the soil may all the time be built up.

The properties of blood (ammonia) we may get from other sources. Cotton-seed meal, nitrate of soda or sulphate of ammonia will supply it; and the properties of bone we find in other material; and the potash may be pure or in the form of sulphates; but they *must* all come from some source, if we expect the best results, for I really think a farmer might better deny his hog the corn it takes to lay on fat than to starve his orange tree. And here let me tell of a late occurrence:

Visiting a noted and very successful orange-grove man, he put the question: "If you were working 10 bearing trees for a premium of $1,000 at the end of five years, and I was competing against you, what would you do?" I said: "I would have to look at my patient before I could prescribe." "Oh well, 10 trees on common pine land, say they are now in good condition." I said: "I would get four pounds of sulphate of potash, and eight or 10 pounds of fine bone

meal, and put it on, and if I thought they needed more nitrogen than was in the bone, I would put on three or four pounds of cotton-seed meal, and watch results; and as fast as a tree showed that it could use it, put more on, likely three or four times during the year."

There was nothing more said on that point till a walk down into his grove, which was a beauty, sure; no "opening up the top" there. The trees had all their leaves—great, large, dark-colored ones—showing what some would call "intensive fertilizing," and the oranges were there, too, loads of them. I remarked: "You are doing it to them, sure. You don't believe in starving trees any more than I do. What have you put on? He replied: "Just what you said you would, and in about the same proportions."

I wish I could say it here in this little work plain enough that all our planters could stear clear of the many humbug fertilizers that are furnished us; their name is legion. I am honest in saying that I have seen some of our so-called fertilizers used on orange trees, that instead of acting as food for the tree, injured it; for the life of me I cannot conceive what can be their constituents. One I remember was made of something like an ingredient of Josh Billings' soup, that "made the soup better when they did not put any in."

These fertilizers are largely advertised. Flaming handbills and catalogues are sent out. One ignoramus went so far as to say in his catalogue one season, that an orange tree did not require ammonia, that it injured the trees, and his special fertilizer did not contain any, and I guess in the latter remark he told the truth.

Again, we see marked on bags and barrels, "Special Orange Tree Grower," "Special Orange Tree Food," "Special Potato Manure," "Special Pineapple Food," all of it misleading just to make us ignoramuses believe that an orange, peach or pear tree, as also a grape vine or pineapple plant, did not all use the same food, if it was in reach. They must all have ammonia, phosphoric acid and potash; there is no special business about it. For my use it matters not what I am to apply it to, I want a fertilizer that contains all the elements that plants take up from the soil. As Liebig remarks: "We must create in our soils an artificial atmosphere of carbonic acid gas and ammonia."

Phosphoric acid and potash are dormant elements, and have no action without ammonia in some form to "create this carbonic acid gas." Potash is not only an important element in all farm crops, but if we expect our oranges to come to perfection in sweetness, and that they

shall be thin-skinned and bright, they must have sufficient of potash.

Tobacco stems are an excellent fertilizer; the course, heavy stems are the best. They are largely (9 per cent.) potash, some nitrogen and phosphoric acid, and as it has once been taken up by the plant, it is in just the proper condition to return again to plant life.

Many of our most successful orange growers are following the plan of so treating the old bearing grove that it conforms to nature as near as may be, and are gathering leaves of the forest, old rotten wood, twigs and limbs of trees. One large grower of my acquaintance I have seen cutting small oak trees—what is termed second growth—cutting it up into convenient lengths for hauling, and placing under the trees. All such wood and rakings of the forest decays quickly, and not only holds moisture and adds humus to the soil, but the nitrogen that comes down with the rains, as also the dews of night, are retained, and in that way go into the soil, to its great benefit. Under conditions of clean culture, the first rays of the morning sun drive it back into the air whence it came.

There are so many conflicting ideas of orange culture that to find out the best way must be a very perplexing question for the newcomer to solve. Yet, as I have said in another chapter, there surely is one best way. If the grower of moderate means expects to keep in the business, he certainly must not use more money in growing his oranges than they will sell for in the market. Maybe he is using more money in pruning, plowing, harrowing, cultivating and hoeing, never allowing soil or tree any rest; and to make up for this wear and tear of the soil, and tree as well, to great results, three or four times as much manure has to be used as with the grower I mentioned as trying to draw all he can from mother nature. The one in his abuse of nature's laws has lost money, and the other is adding to his bank account. This is no overdrawn tale; I am noting these two extremes in actual practice. I can point to a grower that takes a deal of pride in his orange grove, that I do not believe has ever made him an orange that did not cost, on the tree, five cents; while with the other his expenses do not exceed that amount a box on the tree.

In all our country the practice with farmers is to bring up worn-out lands with some soiling crop. In northern sections, red clover, on lands not too far worn down to produce it, is the best for that purpose; with the South, where red clover is not naturalized, the cow pea is named "the clover of the South," and on all calcareous soils it is a

most excellent soiling crop; but I do not find it so on our sandy soils. I cannot even make myself believe, that with the thousands of acres of cow peas I see grown every year in Florida (for the purpose of enriching the soil), I have ever seen the soil benefited in any way by it; but I am very certain, indeed, that such soils are lastingly injured by it.

I think I am safe in saying that all our sand soils (and the farther South the more so) are infested with the "anguellula," a parasite that is the cause of "root-knot" of plants. It fastens itself to all succulent-rooted plants to propagate itself. The cow pea, as also the common garden pea, is one of those plants, and where a crop of either is raised, I have thought there are millions of this very troublesome pest left, where there was one before; and when once in, it is there to stay. The land is thus made unfit for many trees and plants we may be desirous of raising. Especially is it ruin to the fig and peach trees, as also hibiscus, roses, oleanders, and many other plants.

Professor Niel, in some of his writings, says it injures the roots of orange trees. I myself have found it fastened on orange roots. I am a great believer in soiling crops in our orange groves—crab grass, sand spurs—anything to mow down and rot, or let die and fall down to plow under. I am a believer in beggar weed for orange groves; it is rapidly coming into use. I do not think it is a good plan to plow under any crop while green. In its decay it generates a gas that is injurious to plants. I am following the plan of growing beggar weed in the grove, and cut it with a mower twice in a season and let it rot on the ground. Or it may be cut for hay when 2 feet high, and another crop will come on that may be cut and left on the ground as a mulch.

NUMBER OF TREES AND PLANTS TO THE ACRE.

4 x 4 feet	2,722	14 x 14 feet	222
5 x 5 "	1,742	15 x 15 "	193
6 x 6 "	1,210	16 x 16 "	170
7 x 7 "	888	17 x 17 "	150
8 x 8 "	680	18 x 18 "	134
9 x 9 "	537	20 x 20 "	108
10 x 10 "	435	25 x 25 "	70
11 x 11 "	360	30 x 30 "	48
12 x 12 "	302	40 x 40 "	27
13 x 13 "	257	50 x 50 "	17

PROPER DISTANCE TO PLANT.

For grape-fruit trees	50 x 50 feet
" orange trees	40 x 40 "
" peach trees (in Florida)	25 x 25 "
" grape vines	8 x 10 "
" pear trees	30 x 30 "

TANGERINE ORANGE. (See page 12.)

SHORT HISTORY OF THE PEACH.

All the authors on the peach I am acquainted with assume that the peach is a native of Persia. Long lists of varieties are given, nearly all of American origin, except that the late A. J. Downing mentions having procured the Chinese Cling, Honey and Peen-to from China. The facts are, the peach is found wild in Turkey, Persia, Afghanistan, Northern India, and all over China; and this accounts for the different strains in use in our country. Each section has had its peaches that were adapted to that particular climate, and when taken to another country of similar climate, the peach is quite a long-lived tree. The peach first in use here is said to have been taken from Persia to Italy, and thence over Europe to our country. Then the Spanish peach, that is, presumably, from Turkey to Spain, and from there through the Carolinas to Florida. Again, the old Indian peach, that came from Mexico up through the Mississippi Valley, is, more than likely, a different strain of the peach from Turkey.

Then the Chinese Cling, we believe from Northern China, the Honey from Middle China, and the Peen-to, which is the peach found wild by Atchison, from southeast Afghanistan, from there to China. The Spanish peach was first to come into use in Florida with the advent of the first settlers, and while peach culture has not proved very successful in Florida, yet better results have come from the old Spanish peach than all others, until the Peen-to came. This peach is in very many respects entirely distinct from all the other strains. It is a perennial tree from a tropical climate; hence its adaptability to our climate of Florida, more especially the southern part of the state.

All others seem to have come from a colder climate. There is something in their physical organization that requires a lower mean temperature than we have here, and conversely, the Peen-to is of no value in sections of much cold.

PEACHES.

My trees are all June buds, finely grown, extremely well-rooted, CLEAN and PERFECT in every part, and will make a better orchard tree than those that have been kept in the nursery one and two years. All Florida-grown, and guaranteed to be free from root-knot.

PEACH CULTURE IN FLORIDA.

Ten years ago but little had been done south of Jacksonville with peaches. Planters had often tried growing them, but with the exception of a few seedlings that were found with the old settlers, they were pronounced an entire failure.

About twelve years ago the Peen-to came to us, which turned out to be a success where others had previously failed. Being something of a student of physological botany, my attention was soon turned to this question of failure in one case and entire success in the other. I suspected it came from a want of adaptability of those that had been previously planted, while the Peen-to seemed perfectly naturalized to our peculiar climate, and I undertook to find out why the difference. I expected to find out that the opinion which so generally prevails—that we are indebted to Persia for all our peaches—was not true, and that the different strains in use here in America had had their origin in as many different sections. I found the task a very arduous one. I not only found that "the peach is a native of Persia," but of Turkey, northern China and northern India, as well as Afghanistan, and that the Peen-to is found wild in the tropical part of that country, a perennial tree "of evergreen foliage," with "peculiar-shaped fruit," as Atchison says of it. This accounts for its adaptability here.

I also found that the peach so long in use here, and best suited to our climate, previous to the advent of the Peen-to, is of Turkish origin, from that country to Spain, being brought to us by the early explorers of that country, and known here as the Spanish peach.

It was said of the Peen-to that it would not cross with the other peaches; that with its many changes from Afghanistan to China and to Australia, and then to us, when the seed was planted it came true—that same "peculiar-shaped fruit." In Florida there often come pomological changes that the best of us cannot account for—changes that scientists do not mention as coming in other sections; but they do come, and our climate, which is so peculiarly different from that of any

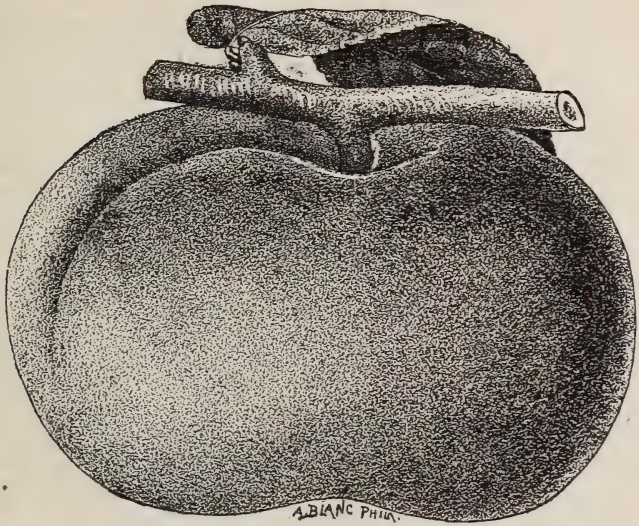
and all other countries, is the cause of them. And now from this Peen-to peach, when the seed is planted, it is seldom that the fruit comes in shape a Peen-to. I have also, in several instances, found the form to change in the fruit bud, and flat and round peaches on a bearing Peen-to, on the same limb.

There has been quite an interest taken in planting these new varieties, that are now, I may say, a part of us; in many instances with gratifying results, while in others the reverse is true. The failure to grow the fruit in all cases has come from the improper selection of the ground to plant, or neglect after planting. My own experiences have been, as also from the many trees that come under my observation, that if a peach tree is properly cultivated and plenty of plant food given it, that it will be as long-lived here as in any other section.

We find there is a deal of trouble from the so-called root-knot parasite—a troublesome pest that gives more or less trouble to the peach tree in all sandy soils, from Michigan here; and the remedy comes, first, in not planting the land to cow peas or any other succulent-rooted plant that this parasite makes use of to multiply in; and secondly, to manure the tree well at the time, that it may have strength to overcome this troublesome enemy. The planter must bear in mind that the physical structure of the peach tree is such that its leaves are small and very thin, and that it is one of those plants that are called "soil feeders;" that little of its real food comes from the atmosphere, very much less than the orange; and that it must be well supplied with potash, as well as with those elements necessary to make large, dark leaves and rapid-growing wood.

Of the varieties to plant, use none of the Persian or Chinese types, and none of the Spanish strains, unless their origin is as far south in Florida as you desire to plant. There is also a difference in the stocks we nurserymen use for budding our trees upon. This old Spanish peach, from the fact that it is a stronger-growing tree than the Persian peach, is much preferred as a seedling; and it is a demonstrated fact that trees that are grown by our nurserymen at home, when that stock is used, make a much better and longer-lived tree than those that come from where the Persian stock is in universal use.

I have found it a good plan to prepare the ground by putting in the hole well-decomposed muck (a barrel to the tree), and if it can be manured after, fine ground bone (five pounds to the tree) and two pounds of sulphate of potash once or twice during the season, culti-



MOTT'S FREE PEACH. (See page 28.)

vating the tree well by plowing three or four times during the year. With this treatment I would expect my trees to be strong enough to overcome disease, and to produce good crops of fruit.

The past season I have used Kentucky tobacco stems, with excellent results, 12 to 15 pounds to the tree in January, well worked into the soil. My fruit was very fine, and the trees are pictures of health.

I think one of my worst horticultural failures has been in trying to make a peach tree for our Florida farmers to plant that would withstand that old curse, "peaches are no good here in Florida," at the time they are planted and left to take care of themselves afterward. In its nature a peach tree at best is short lived; but with the treatment they usually get here, they are short lived indeed; and when the dead tree is taken out it is found that root-knot has killed it—starved it to death. If a proper selection of soil is made (new land), and trees are taken care of as I have directed, there will be no trouble from root-knot or any other disease of which I have knowledge.

Lottie. A seedling of Peen-to. Originated with W. A. Marsh, near Orlando. One of the earliest and most productive of the Peen-to strain. An oblong peach, highly colored with carmine; flavor excellent, with less of the bitter of that family of peaches than any other; semi-cling. Trees, 3 to 4 feet, 25 cents each, $20 per 100.

Peen-to. Is so well known that it needs no description. Trees, 3 to 4 feet, 20 cents each, $10 per 100.

Bidwell's Early. Tree vigorous and very productive; fruit good size; color beautiful carmine; semi-cling. In quality it is rich, melting, juicy and sweet. Ripens May 10. Trees, 4 to 5 feet, 20 cts. each, $2 per dozen, $10 per 100.

MOTT'S FREE. A seedling of Peen-to; origin, Orange county, Florida. It resembles its parent Peen-to in appearance, but is finer in quality. Ripens with the old Peen-to, and is a perfect freestone; what we have so long sought after here in South Florida—an early freestone peach. Trees, 3 to 4 feet, 25 cents each. (See cut, page 27.)

Waldo. A seedling of Peen-to. Of good quality; size rather small; very productive; a freestone. Trees, 3 to 4 feet, 20 cts. each, $10 per 100.

Maggie and **Yum-Yum** are both seedlings of the Peen-to, but are so nearly identical with Bidwell's Early that it is hard for me to tell them apart. Trees, 3 to 4 feet, 20 cts. each, $10 per 100.

Angel. A seedling of Peen-to; an excellent freestone peach. Ripe in July. Trees, 20 cts. each, $10 per 100.

Bidwell's Late. About same in size, a little more round and some less color than Bidwell's Early, which it resembles in taste and texture. Striped with carmine on a yellow ground; pretty. A remarkably good shipper, and will be one of our best for distant markets My last assorted sales, made July 2, of 12⅓ bushel crates, brought me net (after express charges and commissions were taken out) $20.85. The cost of crates, gathering, packing and hauling to railroad is 80 cts. per bushel, leaving a net on the trees of $4.41. Trees, 4 to 5 feet, 20 cts each, $2 per dozen, $10 per 100.

I much prefer young trees for planting. If grown in the South, June buds are as large as I want. Three to 4 feet in height I consider large enough. The sap circulates much better in this young tree the first season, and at the end of the year our tree has made a better growth than if an older, large tree had been used.

KELSEY'S JAPAN PLUM.

PLUMS.

The past (or I will say present) season has again demonstrated that some of the plums from Japan are as sure to give us crosses of fruit here in Florida as in other fruit-growing countries. The Kelsey seems the most promising so far, and in all sections of Orange and Lake counties, where the trees have been properly fertilized, they have given good crops; and in many cases I have seen the trees bending to the ground with their wonderful loads of fruit. I am sorry to know that often, for lack of manuring, there has been no fruit.

	Each
Kelsey on Marianna Stock. 4 feet	$0 25
Satsuma, or **Blood.** 4 feet	25
Botan. 4 feet	25

JAPAN PLUM.

Medlar. One of our most valuable fruits; the fruit when canned holds its rich flavor equal to that taken fresh from the trees. Trees, 3 feet, 25 cts. each; 5 feet, 50 cts. each.

JAPAN PERSIMMONS.

Triumph. Origin near Sanford, in Orange county, Florida, from seed from Japan. Its quality is of the best; size medium; tomato-shaped; a pretty carmine, on a yellow ground. Very productive; the past season the crop from a single tree brought $16. Ripe in October, and holds on the tree until January. Tree, 3 to 4 feet, 40 cts. each, $3.50 per dozen, $25 per 100; 2 to 3 feet, 35 cts. each, $3 per dozen, $20 per 100.

Col. Church. A tree found with Col. Church, near Orlando; a very fine fruit; in size the largest of my acquaintance; single specimens often weigh over a pound. Trees, 3 to 4 feet, 40 cts. each.

Hyakume. Large; deep red in color; keeps very late. Trees, 3 to 4 feet, 25 cts. each.

Kaurokume. Slightly oblong; an old standard sort. Trees, 3 to 4 feet, 25 cts. each.

QUINCES.

Chinese. Fruit very large, often weighing over two pounds. Not so good in quality as our old European quince, but its large size and adaptability to our climate make it very valuable. Trees, 3 to 4 feet, 50 cts. each.

PEARS.

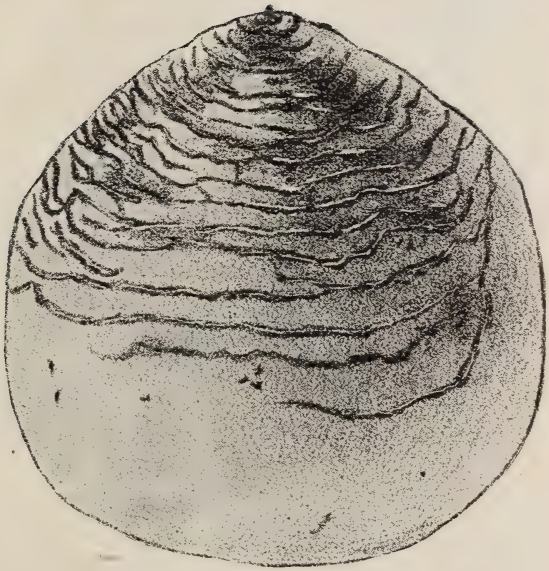
Le Conte, so far, stands at the head of the list of pears for successful culture. A peculiarity of it is, that it will only do raised from cuttings; in other words, on its own roots. Trees, one-year, 4 to 5 feet, 20 cts. each, $10 per 100.

Kieffer. It is from the Sand pear of China, and adapted to this climate. The best pear for this section. Grafted on Le Conte, it fruits very young, trees 4 years old breaking down with their heavy crops. Trees 4 to 5 feet, 20 cts. each, $10 per 100.

☞ Special rates on large lots.

MULBERRIES.

Chas. Downing. 35 cts. each.



JAPANESE PERSIMMON. (See page 30.)

FIGS.

GUAVAS.

Cattley, Red and **Yellow.** Plants 3 years old, 20 cts. each, $2 per dozen, $15 per 100.

FIGS.

Sugar, or **Celestial.** So far the best of many varieties that have been tried in Florida. Fruit small, very sweet—so sweet that they are eaten without peeling. They often preserve themselves on the tree. 40 cts. each, $4 per dozen.

Brown Turkey. 40 cts. each, $4 per dozen.

White Adriatic. 40 cts. each, $4 per dozen.

Black California. 40 cts. each, $4 per dozen.

GRAPES.

LOCATION OF A VINEYARD.

Again the story has gone out that here in Florida nothing but "flatwoods" lands would do for the vine—another misleading statement, as among the best vines and the finest grapes I have found in the state have been those on rolling pine land. I like level land here for a vineyard, but I do not care how high it may be.

PLANTING.

The ground should be thoroughly plowed and put in proper tillage. Anybody ought to know that. I believe in pretty wide planting, yet some vines require much more room than others. 7 x 7 feet is no closer for a Delaware than 10 x 10 is for a Niagara. 8 x 10 feet is a good distance to plant, the vines to be trained the 10-foot way, and the rows 8 feet apart.

TRAINING.

No prescribed rule can be given as to pruning and culture; good judgment comes in first-rate here. But I can say something of a new mode (in most sections) of training that, for this all-the-year warm sunshine, I think very much preferable to the old plan.

I prepare posts 6½ feet long (and they should be rather heavy ones, 6 x 6 inches, anyway, at the top). I shoulder a 1 x 3-inch 2-feet-long cross-piece, which is spiked securely. The posts are set 3 feet in the ground, being well braced, which leaves the cross-piece 3½ feet above the ground. To the middle of the cross-piece I attach a No. 12 galvanized wire, which will do to train the vines to the first season. The next spring put on two more wires, one on each end of the cross-piece, which will form a flat arbor 2 feet wide, 3½ feet above the ground. The vines being properly pruned and fastened to the middle wire, as the laterals start they will reach out and fasten themselves to the outside wires, and with proper handling the leaves will make a perfect shade for the fruit, which, in a great measure, is out of the way of the birds and is much less trouble to pick. Another point is, the ground is much better shaded by the vines in this way than by the old method of the upright trellis; the vines seem to get around much better, the sap flows easier, and a more perfect growth is secured.

MANURING THE VINES.

Like all other fruit-bearing plants here in Florida, if we expect fruit the vines must be supplied with the manurial elements that are known to produce it. It requires plenty of phosphoric acid and potash. We get the former in bone meal, which, beyond question, is our best manure for the vine, on account of its large percentage of phosphoric acid; the potash is necessary, and it may be applied in the form of wood ashes or potash salts. Sulphate is thought by some to be best.

INSECT PESTS.

A writer once said, "Vigilance is the price of fruit," and the vine is no exception. This chapter is too short to treat at length of the different enemies of the vine. The planter must bear in mind that one beetle not destroyed in the early stages means thousands of them a few weeks later.

If I am not very much at fault, all of these bugs, we will call them, fly at night, and are attracted by a light. I have seen thousands of them destroyed in one night by means of a lamp arranged with a reflector, and a pan of kerosene suspended under it, into which they dropped, and the vines were saved from any injury whatever from that source.

The planter must bear in mind that to get perfect fruit the vines must be perfect. The training must be such that there is wood growth enough, and not too much, for the development of fruit buds, which should be kept well back to the point of first branching. Too many bunches must not be allowed, and a proper system of pinching back must be adopted, so that the leaves are developed where wanted to cover the fruit from the sun, for no one ever saw a perfect bunch of grapes ripened in the sunshine.

In this section this past season I have seen acres and acres of vines with leaves eaten full of holes by beetles, bunches of grapes hanging bare in the sun, the fruit ripening very imperfectly, shattered bunches, and the grower claiming that the cause was something lacking in the soil. It left no place for comments from me. I could only think of too much don't-know-how. (See page 43, Formula for Grape Vines.)

Every planter should provide himself with some standard work on vine culture, that he may be informed in advance how to treat the many diseases, whether they may come from insect life, parasite or

fungi. Of those I will mention "Fuller's Grape Culturist" and "Hussman's American Grape-Growing and Wine-Making." These books we can supply; also others, for which see page 65.

WINE MAKING.

In all sections where grapes are grown, to make it profitable a large portion of the crop should be made into wine. So many bunches are imperfect and unfit for the table, that all vineyardists should prepare themselves in time in that way to save what otherwise would be lost.

SURPLUS.

On this subject we copy from *American Gardening:* "We are glad to see that greater attention is being bestowed upon the production of unfermented grape juice. We are in hearty sympathy with this move. The fresh juice of the grape is, next to good milk, perhaps, the most wholesome of all beverages. We would like to see it come into general use. It could, to some extent, be made to take the place of tea and coffee at our meals, to our great physical improvement, and at the same time afford a most welcome outlet for the surplus of the grape crop. We have already mentioned Mr. Baldridge's exhibit of unfermented Niagara grape juice at the last meeting of the Western New York Horticultural Society. We are informed that this juice, the product of 100 acres of vineyard in Erie county, is simply heated, carefully filtered, and bottled while hot; consequently it is free from all drugs or admixtures."

VARIETIES:

	Each	Doz.	100
Niagara. 2-year vines	$0 15	$1 00	$6 00
Early Dawn	20	2 00	10 00
Concord	10	1 00	6 00
Scuppernong, white	20	1 75	
" Thomas (black)	20	1 75	
" Flowers (black)	20	1 75	

DEWBERRY.

The trailing blackberry. Is native here in Florida, as well as in others of the Southern states. The fruit ripens often early in March, before extreme hot weather and the droughty season. The fruit is larger than the common blackberry, and no fruit garden in Florida is complete without it. Plants, 10 cts. each, $4 per 100.

PINEAPPLES.

Pineapple culture is rapidly coming to the front as one of the most important industries here in Florida. The plant is a native of tropical America, finds a congenial home here, and is being extensively planted in certain sections of our state. For many years it has been cultivated on our lower keys, but its area is fast spreading along the coast sections of both the Gulf and Atlantic, and in many sections inland it is being very successfully grown, and this manual would be incomplete without

THE HISTORY OF THE PINEAPPLE.

(Ananassa sativa, *Lindley;* Bromelia, Ananas, *Linnæus.*)

De Candolle, in his Origin of Cultivated Plants, remarks: "In spite of a few writers, the pineapple must be an American plant, early introduced into Asia and Africa by Europeans."

Hernandez says: "The pineapple grows in the warm regions of Hayti and Mexico; it has been found wild in the province of Veragus near Panama, in the upper Orinoco valley in Guiana, and the Province of Bahia. He mentions a Mexican name, Matzalti."

Lindley remarks: "It is universally acknowledged to be one of the most delicious fruits in existence."

"Three hundred years ago it was described by Jean de Lery, a Huguenot priest, as being of such excellence that the gods might luxuriate upon it, and that it should only be gathered by a Venus. It first became known to Europeans in Peru, where it is called Nanas, and under this name it was described in 1555 by Andre Thevet, a monk."

"The earliest account of a pineapple being seen in England is that of some having been received as a present by the Protector Cromwell. A pineapple was sent to Charles V., who mistrusted it, and would not taste it. "It is said, the first cultivated in that country was in 1715, though they were raised in Holland in the previous century. The successful culture of the pineapple was formerly considered one of the highest achievements in horticulture."

Lindley thinks that "the many varieties are from four distinct species," and further adds: "The plant is evidently very variable, and when South America was first visited by Europeans, they found the natives cultivating three distinct varieties or species." This variable-

SMOOTH-LEAVED CAYENNE PINEAPPLES. (See page 38.)

ness only comes when the seeds are planted, which, in the wild state, may be taken from one section to another by birds or animals. With careful handling, it is easily crossed.

The late A. I. Bidwell once showed me a Black Jamacia apple on a Smooth Cayenne plant, that he had originated by cross-fertilization. There are portions of Florida where soil and climate seem admirably suited to the culture of this valuable fruit. Mr. Wm. Saunders, Superintendent of Grounds, Washington, in his report for 1892 remarks: "Pineapples of Florida growth will soon acquire as great a reputation for excellence as oranges grown in that state have already reached."

This excellence, in part, is no doubt due to our better modes of culture over those countries whence come our imported pines, where their culture is little better than a wild state. I must believe that in our peculiar climate the pineapple has a congenial home, and that, when we have learned its other than climatic requirements, we shall, as Mr. Saunders remarks, excel all other sections in pineapple growing. The old maxim, "the finer the fruit, the more skill required to produce it," is surely true in this case, and though it is little more than a decade since our first commercial planting, it is gratifying indeed to note our rapid advancement.

Now, this season just gone, the Indian River section has sent out over 3,000,000 fruits, and the Bay Biscayne, Key Largo, and the other isles to the south have marketed half as many more. There are large fields of pines along the East Coast section, as also on the islands called keys, to the south of us. The Gulf Coast section, and in portions of the lower interior of the state, a good many pines are grown, and the industry is rapidly developing. The area of planting is extending further up, and here about Orlando, where there is some frost, quite extensive plantations are now out; one grower has some seven acres, most of them now fruiting; all are under what we call an Orlando pineapple shed, as shown in accompanying cut. (See page 37.) This covering protects them from several degrees of cold, and makes their culture a success where we could not grow pines in the open air. I should add that the pineapple is a tropical plant, but not of that very sensitive class called "stove plants;" it will stand some cold, but freezing kills it.

To ripen the fruit to perfection requires a high temperature; our summer, with the mercury much of the time in the 90's, just suits it, and it is that, together with our peculiar humid atmosphere, that gives

our Florida pineapples that luscious sweetness that I have never found in the pineapple of other countries.

The Azore Islands have become famed for their fine pineapples. I presume to say that there is as much science given to its culture there as in any section of the world. It is never cold there; they have to make their climate; the temperature is never lower than 65 or higher than 85. Not quite hot enough to grow them in open ground, and all their work is under glass, which gives the required warmth; and I think they use artificial means for the moisture, that here is so lavishly bestowed upon us. They only grow one variety to any extent; all others have been discarded for the Smooth Cayenne. One of our largest growers here was there several months to learn their mode of culture and to procure plants. Propagation may be by seeds, crowns, gills and suckers; the latter are considered best. There are some desirable sorts that produce few suckers but numerous gills (termed slips), that form about the base of the apple; they are good plants, but are longer coming into bearing. After the fruit is taken off, these suckers grow very fast from the base; it is a good plan to let them remain on the old stools until they are of considerable size, 12 to 20 inches in length, with well-ripened wood fiber. The plants for the pinery are nicely trimmed some days before planting, and left to wilt some; as treated in that way the superabundant sap is dried out, and the plant starts new roots more quickly than when planted in the fresh state and full of sap. This trimming should be carefully done; the operator should understand why he does it. With a sharp knife cut off the butt end of the plant, being careful to cut not further up than to expose the embryo roots that show in six or a dozen little eye-like specks (for they are to make the lateral roots of the plant), and, unless this cutting off of this lower end is done, our plant gets along without, we will call it, tap-roots, that are so essential in holding the plant strong in place, as also to take up moisture from the lower soil. After the butt end has been taken off, then strip off the little short under leaves, and more little specks will show (often they are quite roots). They make the surface roots of the plant, and, as before, if not done the roots are slow in coming out: many of them never will; the plant makes a slow start, and it never will have a sufficiency of roots to hold it strongly in the ground. It is slow in coming into fruit, and a short-lived plant at best. The plants should be set so deep that they are quite firm in the ground, so that the lower end is down into the moist earth.

Of distance to plant, I prefer pretty close planting, 22 x 22 inches, with alley ways only for convenience in carrying out the fruit. With our pine land soil, that we know is lacking in plant food, I think the practice is a good one to manure the land thoroughly before we plant. I like Kentucky tobacco stems, 3,000 pounds to the acre, plowed under a month or so before planting, or the same of blood and bone, plowed into the ground.

The pineapple adapts itself pretty well to our varied soils, only our shell lands will not do, from the fact that lime in any form is injurious. In preparing the land, I think it very beneficial to subsoil it—break up, as it is termed, the lower "water-packed sand." If prepared in that way, in time of drought moisture more readily finds its way to the surface, as, also, it has better drainage in time of wet.

VARIETIES.

A noted author remarks: "Pineapples are somewhat numerous in variety, but for all practical purposes only a few of the best are necessary." I have thought that of the 60 or more varieties mentioned by Robert Thompson, in his "Gardener's Assistant," there are some one, two, or three that are best.

A recent letter from an Indian River grower says, in connection with the Red Spanish: "The same number of finer ones can be raised on same land with same attention. Of course, it is a good thing to raise common ones while a person is working into the finer kinds, so as to be getting something from the land." Our growers here in Orange county, where we build our pineapple sheds at a cost of $500 per acre, calculate closely what variety will pay us best. The author before mentioned remarks: "Indeed, the good qualities of the few leading sorts enumerated below have been sufficient to gradually lead to the discarding of many others of less merit."

DESCRIPTION.

Black Jamaica. Weight 4 to 5 lbs.; one of the best for fruiting in winter.

Charlotte Rothschild. Fruit large, flesh yellow and very juicy; weight 7 to 10 lbs.

Lord Carrington. Flesh pale yellow, tender, rich and highly flavored; weight 4 to 6 lbs.

Queen. Fruit rich, deep yellow when ripe; flesh pale yellow, remarkably juicy and sweet; weight 3 to sometimes 8 lbs.

Smooth-leaved Cayenne. Fruit very large, dark orange yellow; flesh pale yellow, rich and highly flavored; weight 6 to 10 lbs.

One of the best for winter fruiting; leaves nearly without spines, which with me is a big point in its favor. Having no thorns, it is much more pleasant to handle. Origin, British Guiana.

Abbaka. Of more recent origin; came from Brazil, and has been called the Brazilian pine. Fruit dark orange-yellow; flesh rich yellow with very little core; very juicy, fine and sweet; none better in quality; weight 5 to 8 lbs.

I will also give the description of the common one mentioned above:

Red Spanish. Fruit dark, pale yellow; flesh white, with a large core; juicy and good; weight 2 to 4 lbs., and is the one variety so universally cultivated here in Florida.

FERTILIZING.

This is a very important question, as here in our poor sand soils fertilize we must, and that, too, with a liberal hand; but what with, and how, has puzzled more brains than mine, and I confess that I do not understand it in all that pertains to keeping plants in health, and growing fruit that will carry well to market.

The pineapple is not a very lasting plant. For that reason I prefer a fertilizer that is easily assimilated by the plant—one that acts quickly. I believe, after the tobacco stems, a fertilizer that is made of sulphate of ammonia, sulphate of potash and bone black or dissolved bone, a mixture that will give a fertilizer the analysis of which will show 2 to 3 per cent. of ammonia, 3 to 4 per cent. of phosphoric acid and 8 per cent. of potash, applied twice a year, about half a pound to the plant for each application, will give us healthy plants and fruit that will carry well. Some soils may want more; the growers must look to that matter.

INSECT PESTS.

Mealy bug and white scale are the most injurious, destructive insects, to the attacks of which the pineapple is subject. A solution, made by dissolving two ounces of bi-sulphite of soda in a gallon of water, applied in a fine spray, is one of the best remedies; as, also, dissolve one-half pound of hard soap in 3 gallons of hot water, and apply in a fine spray. This should be done when the plants are not wet with rain, and once or twice a week until the trouble is gone.

TIME TO PLANT.

As is the case with all tropical plants, they can be planted at any time of the year. It is my practice, when the plant is large enough, to take it off and plant it; or often plants are left in the shade for

months after being taken off. Some growers prefer to leave plants, after being taken off, some little time, until considerably wilted—"to dry off till they get hungry," or I will say, until the superabundant sap has dried out somewhat. Where that plan is followed, there is not the least trouble from rotting out, as is sometimes the case where they are planted as soon as taken off, and are full of sap. Planting is mostly done in the summer, as soon as plants can be obtained, as here in winter, if cold, there is no growth (as there is in tropical climes) till our summer warmth sets in. There are often some suckers that have been produced in winter. Plant these in April or May.

Of the new plants, the Queens are the first to come. The larger, finer sorts come on more slowly, and often it is August or September before we get Abbakachii and Smooth Cayennes. This season I expect to plant a good many of these later ones, to ripen in October and November.

A PINEAPPLE SHED.

Without question the Pineapple, if partially shaded from the direct rays of the sun (and in this region, the interior we are obliged to protect from cold), does better, plants are healthier, and the fruit finer, than when grown in the open ground. Our method is to use posts that will square 5 inches, 9 feet long, set in the ground 12 feet apart each way, and 2 feet deep; a 2 x 6 piece shouldered to the top, as shown in the cut (see page 37); then 1 x 3-inch strips, of such lengths as to break joints on this cross-piece, and placed 3 inches apart, and we have an Orlando pineapple shed.

	Each	100	1,000
Smooth-leaved Cayenne	$0 25	$20 00	$200 00
Abbakachii	20	20 00	150 00
Ripley Queen	20	10 50	100 00
Golden Queen		12 50	

SPRAYS—HOW TO MAKE AND USE THEM.

To Prevent Potato Blight or Rot.—Use Bordeaux mixture, same as for grape-rot, with the exception of using more water. Dissolve 6 pounds of sulphate of copper in 32 gallons of water, and slake 4 pounds of fresh lime in 12 gallons of water. When the last mixture has cooled, pour it slowly into the copper solution, taking care to mix the fluids thoroughly by constant stirring. When the vines are about 10 to 12 inches high spray, and continue the operation every two weeks. By mixing with the Bordeaux mixture a solution

of Paris green or London purple, one pound to 200 gallons of the mixture, the fungus and potato bug may be doctored at one operation.

Grape Rot and Mildew.—Use Bordeaux mixture—it is sure.

Bordeaux Mixture (A).—Dissolve 16 pounds of sulphate of copper in 22 gallous of water; in another vessel slake 30 pounds of lime in 6 gallons of water. When the last mixture has cooled, pour it slowly into the copper solution, taking care to mix the fluids thoroughly by constant stirring. It is well to have this componnd prepared some days before it is required for use. It should be well stirred before applying.

A solution containing the ingredients in the following proportions has been recommended for general use:

Bordeaux Mixture (B).—Dissolve 6 pounds of sulphate of copper in 16 gallons of water, and slake 4 pounds of fresh lime in 6 gallons of water. When cool mix the solutions, as described above.

Treatment of Grape Vines.—As a first step, every precaution should be taken to remove as much of the infectious material as possible. With this object in view, the old leaves and rotton berries should be carefully collected in the fall or winter, and burned or buried. Trimmings should also be burned, as they often harbor thousands of the minute spores or reproductive bodies of the fungus. The Bordeaux mixture has proved beyond a doubt to be the most reliable preventive of black rot. In all cases it must be remembered that these treatments are *preventives*, and being such, it is sheer folly to wait until the enemy appears before beginning the fight.

In the spring, after the vineyard has been pruned and put in order by the plow, but before vegetation starts, spray the vines thoroughly with the Bordeaux mixture, Formula A. (See above.) The object of this spraying is to destroy any spores of the fungus that may be hidden away in the crevices of the bark.

To destroy woolly and apple aphis and bark lice, suctorial or sap-sucking species of insects, including chinch bugs, squash bugs, plant lice, leaf hoppers, aphis and bark lice—Use the kerosene emulsion.

Kerosene Emulsion is one of the most useful of the insecticides, and may be easily prepared as follows; Dissolve one-half pound of hard soap (best whale oil soap) in 4 pints of water by boiling. When the soap is all dissolved, remove from the fire and add 8 pints of kerosene, and agitate the whole briskly until a stable mixture is obtained. This is best done by using a force pump and pumping the mix-

ture with force back into the vessel that contains it. The emulsion may be diluted to the desired strength and used at once, or it may be allowed to stand and be used from when needed. The strength ordinarily used is prepared by diluting one part of the emulsion in 10 or 12 parts of water, which makes the kerosene about 1-20th part of the whole.

To Prevent Fungous Diseases affecting fruit trees, such as apple scab, twig blight, bitter and black rot of apple, pear and quince leaf blight, black knot on the plum and cherry, rot and leaf spot disease of plum and cherry, and fungous diseases and rust affecting the raspberry, blackberry, currant, gooseberry and strawberry: Spray with the Bordeaux mixture, which is prepared as follows: Dissolve 6 pounds of sulphate of copper (blue vitriol) in 16 gallons of rain water. In another vessel slake 4 pounds of lime in 6 gallons of water. When this has cooled, pour it slowly into the copper solution, being careful to mix the fluids thoroughly by constant stirring. This mixture can be diluted to one-half the above strength by adding more water, if desired, for preventing fungous diseases, and many parties have had satisfactory results by diluting in this manner. Yet my experience has proved to me that it is best to use the original Bordeaux mixture, and I think that the difference in cost will be more than made up by the increased thrift and vigor of the trees, vines and foliage.

It must be remembered that insects and fungous diseases are of an entirely different nature. Insects are very often blamed for injuries which are really caused by parasitic fungi. The effect of judicious spraying with fungicides is to check the dropping of immature fruit in the spring; to cause it to grow of larger size and freer from blemishes; to cause it to hang better to the tree when ripening; to cause it to take on higher color in ripening, and to improve its keeping quality. The effect of scab and other fungous diseases is to cause a large proportion of the fruit to drop when quite small; to greatly disfigure and reduce the size and market value of that which matures, and to injure the vitality of the tree by causing a premature falling of the foliage. Care should always be exercised that our mixtures for sprays are not too strong, as if they are we may injure the fruit. One of my neighbors last season lost 700 boxes of oranges by using a solution that was too strong.

MISCELLANEOUS.

THE MANGO.

[*From the Florida Agriculturist.*]

"The mango is becoming very popular as one of our Florida fruits. Its origin is in a tropical country, yet it withstands some cold, and is now being grown quite extensively in some favored sections of our state, where frosts are not too severe. There are several trees about Orlando now producing considerable fruit. De Candolle says there is 'a multitude of varieties,' and so there is with us. Some of them are peculiar in flavor, having the aroma and strong taste of turpentine, while with some the turpentine flavor is entirely wanting.

"I send you some specimens of the largest and finest to the taste of any I have ever known, and if you, Mr. Editor, love mangoes, you will agree with me that they are fine eating.

"It is here called the **Bombay Mango**; all we know of it is that it came here from that country.

"The tree in form and foliage is one of the handsomest in the floral world, and one of the most productive fruit trees in my acquaintance. In spring time, when in bloom, it is simply grand; its spreading, round, symmetrical head, and when the fruit—which is in clusters—takes the place of the blossoms, it grows more beautiful still, its limbs drooping over with their great loads of this apricot-yellow fruit, that are clustered together in bunches of a dozen or twenty specimens, making it the handsomest fruit-bearing tree grown.

"No Florida home, if in a section where cold is not too severe, is perfect without a cluster of mango trees."

BEST VARIETIES.

I have selected three varieties as best. Two are of late introduction from Bombay. As they are here without name, being called only Bombay Mango, I have named them No. 1 and No. 2.

Apricot Mango. One of the best. Was much grown on Point Pinellas before the freeze. Size, small to medium; yellow, with bright red cheek, and no black spots on the skin. Taste, that of a delicious apricot, only much better; very spicy, and almost entirely

lacking in the "turpentine" taste, objected to by some. 25 cts. each, $2 per doz., $10 per 100.

Bombay Mango No. 1. Is nearly round, very symmetrical; when ripe a rich, orange yellow; in size medium to large; small seed, and little of the stringy fiber about the seed that belongs to all mangoes. Pot-grown plants, 50 cts. each, $40 per 100.

Bombay Mango No. 2. Is round, symmetrical, and more than twice the size of any other variety within my knowledge. I have gathered here near Orlando, this past season, specimens that turned the scales at over two pounds; when ripe rich orange yellow, tinged with red; small seed, with very little of the stringy fiber that adheres thereto. As for me, I cannot imagine a mango that could be more beautiful, or that would excel this in quality. It is a surprise to all that see it. Pot-grown trees, $1 each.

CHERRIES.

Surinam or **Cayenne Cherry.** A beautifully ornamental evergreen shrub, producing in spring a profusion of very pretty scarlet red fruits the size of a large cherry. A good acquisition to our long list of Florida fruits. Trees, all pot-grown, 35 cts. each, $3 per dozen.

BANANAS.

Cavendishii and **Hart's Choice.** 25 cts. each, $2 per dozen, $10 per 100.

PECAN.

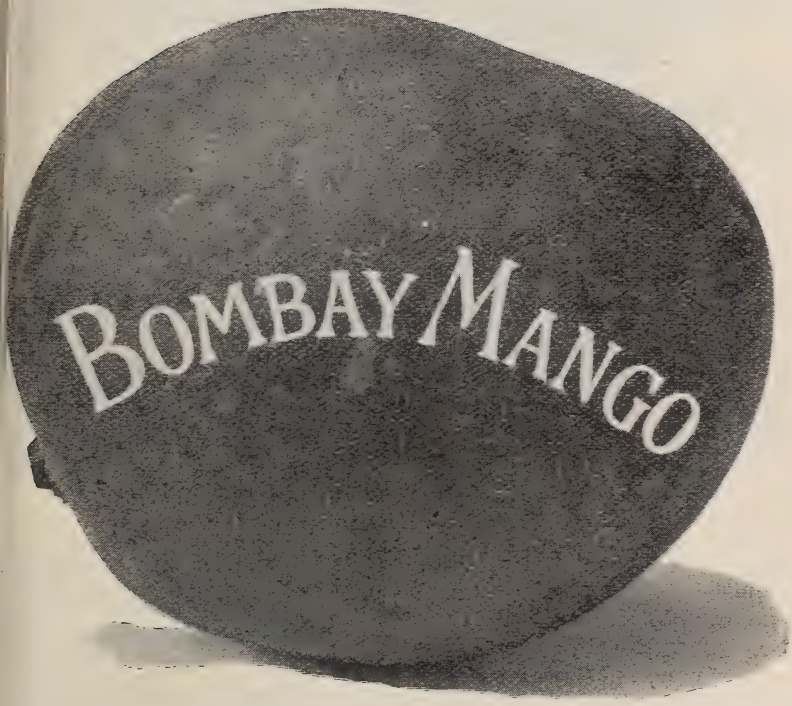
PECANS.

One of our best nut-bearing trees. It finds a congenial home in the whole South, from St. Louis to Florida Keys. Trees here at Orlando—seeds were planted on high pine lands 17 years ago—have been bearing annual crops for the past ten years.

Texas Paper-shell. Trees 4 to 5 feet, 40 cts. each, $3.50 per dozen, $25 per 100; 3 feet, 25 cts. each, $2 per dozen, $15 per 100.

POMEGRANATES.

Flowering. 50 cts. each.


BOMBAY MANGO

GIANT BAMBOO.

SHADE TREES.

MAGNOLIA FUSCATA. (*Banana Shrub.*)

50 cents each.

TEXAS UMBRELLA.

Trees, 4 to 6 feet, 40 cts. each, $4 per dozen; 2 to 4 feet, 25 cts. each, $2 per dozen.

GREVILLEA ROBUSTA.

(*Australian Oak, Silk Oak.*)

A fine, fern-leaved evergreen, growing in its native country to 120 feet in height. One of our most beautiful shade trees, producing, through May and June, a profusion of creamy pink flowers. There are several trees about Orlando that have been in blossom the past two seasons. Trees are all pot-grown. 40 cts. each, $3 per doz., $15 per 100.

HIBISCUS ROSA-SINENSIS.

(*Chinese Hibiscus.*)

These showy, handsome and quite well-known plants succeed admirably here in the open ground, and are among the best of our lawn and garden plants. Their gorgeous flowers are produced in profusion nearly the entire year. While they will stand but little frost, the loss of the tops thereby seems in no way detrimental to them, and they grow right off again as vigorously as ever. If good-sized plants are set out in May at the North, they bloom in a short time, and continue in all their splendor until frost. Perhaps no more satisfactory plants for show can be secured, and their low price should not be considered as placing the plants in the category of cheap plants, or those not worth attention.

GOLDEN ARBOR-VITAE.

Thuya Orientalis aurea (Chinese Arbor-Vitæ). Branches short, slender, assuming, during winter and spring, a golden yellow color; a very neat, dwarf, dense bush; the finest of its class for the extreme South. 2 feet high, 50 cts.; 3 feet, $1.

GIANT BAMBOO.

(*Bambusa*, from *Bambu*, the Malay name.)

Stem very stout, rising like a beautiful column to some 50 or 60 feet, the whole presenting the appearance of a huge plume of feathers. Native of India. (See page 48.) Plants, 50 cts. and $1 each.

EUPHORBIA PULCHERRIMA.

(*Poinsettia pulcherrima.*)

A well-known greenhouse plant, native of Mexico, grown for the scarlet bracts that surround its flowers, which are freely produced in winter, and which remain bright for months at a time. 50 cts. each.

OLEANDER.

	Each
Double White	$0 50
Purplish Crimson	50
Red Variegated. Striped with white	50

The above plants are rare sorts, and are the most beautiful of this lass of plants.

POINCIANA REGIA.

(*Royal Poinciana.*)

The Flamboyante of Madagascar and West Indies. One of the most beautiful flowering trees of the tropics, but unfortunately too tender to stand much frost. It is of very rapid growth, and if it should be killed before blooming, it would still have amply repaid for all the care bestowed upon it, in its immense decompound leaves. We have plants all sizes from 6 inches, at 15 cts. each, to 10 feet, at $1 each.

MISCELLANEOUS PLANTS.

GARDENIA FLORIDA FL. PL.

(*Cape Jessamine.*)

Far too well known to need any description; hardy throughout the lower South. Of late they have become fashionable at the North; may their popularity increase! They are among the loveliest flowers grown. Small, well-rooted plants, 15 cts. each, $1.50 per dozen; 12 to 18 inches, 30 cts. each, $3 per dozen; 2½ to 3 feet, $1 each.

CINNAMOMUM.

Camphora (*Camphora officinalis*). (Camphor Tree of China and Japan.) This tree, together with several closely allied species, yields the camphor gum of commerce. The tree is a handsome, broad-leaved evergreen, hardy throughout most of the Gulf states; the leaves and berries are very aromatic. 25 cts., 50 cts. and $1 each.

Zeylanicum. (Cinnamon Tree.) The bark from the young shoots of this tree is the cinnamon of commerce. Small plants, 50 cts. each; extra large, 4 feet, $2 each.

FICUS ELASTICA.

The true Rubber Tree of India. Plants 75 cts. and $2 each.

LILIUM. (LILIES.)

"Innocence, bride of man's childhood,
Innocence, child beloved, is a guest from the world of the blest—
Beautiful; and in her hand a lily."

In rich, moist land many of the Lilies succeed admirably in Florida. Care should be taken that they have thorough drainage; some shade is also beneficial. Lilies, when once established, dislike to be moved often.

Harrisii (Bermuda Easter Lily). Pure white, fragrant, and very free-flowering; closely resembles the Longiflorum variety. 25 cts. ea.

Tigrinum (Tiger Lily). 20 cts. each.

CALLISTEMON RIGIDA.

Bottle Brush Tree of Australia. The brilliant crimson flowers exactly resemble a bottle brush. 25 and 50 cts.

CLIMBERS.

	Each
Thunbergia laurifolia. Magnificent climber; light blue trumpet flowers, 2 inches across, in clusters	$0 25
T. fragrans. White	25

BIGNONIA.

	Each
Purple Mauve	$0 25
Venusta, Yellow	25
Capensis. Orange	25

ANTIGONON LEPTOPUS.

Handsome climber. Flowers in rose-colored racemes. 25 cts.

GARDEN HYDRANGEAS.

Cœrulea. Flowers bluish rose. Price of Hydrangeas, 30 cts. ea.

AMARYLLIS.

Prince of Orange. Fine orange-scarlet. 50 cts. each.

WATER HYACINTH.

A very curious and interesting plant for the aquarium or amateur garden. I find it to succeed admirably in a ditch where swamp muck had been taken out, the roots reaching down into the muck somewhat. This variety in our collection is new and rare; unfortunately I have lost the name; in color blue, shaded with purple, with gold center. Bulbs, 50 cts. each.

HEDYCHIUM.

Coronarium (Ginger Lily, Butterfly Lily). This magnificent plant flourishes best on low, moist land, in half-shade, where it will form a dense clump 3 to 4 feet high. In August and September a mass of fragrant, pure white flowers, looking almost like large white butterflies, borne in large clusters, terminal on every stalk. A splendid and desirable plant. If kept in a greenhouse in a growing state, it will bloom continuously. 25 cts. each, $2 50 per dozen.

Gardnerianum. Garland Flower of India. Flowers light yellow. 75 cts.

ALLAMANDA, "GOLDEN BELLE."

Superb yellow trumpet-like flowers; very decorative. 50 cts. ea.

HELICONIA.

(*Wild Plantain; "Balisier."*)

These magnificent plants are natives of tropical America, where they rival even the bananas in beauty and magnificence of foliage. The plantain-like leaves are followed by great scarlet and black blossom-sheaths of the richest tints and colors. The Heliconias are very rare in the United States. We can supply *three species* of these grand plants. Probably available for scenic culture in Florida wherever the banana can be grown successfully. The Heliconias like plenty of moisture.

Bahia. Guatemala and other parts of tropical America. Has bloomed for us during the past summer. Bracts richly tinted with scarlet. 50 cts. each.

ALPINIA NUTANS.

One of the grandest tropical scitamineous plants, when fully developed, that we have ever seen. 50 cents.

PHRYNIUM VARIEGATUM.

An elegant plant, similar to the maranta in growth. The leaves have erect footstalks about 12 inches high, with wide spreading blades from 6 to 9 inches long and 2 to 4 inches wide, and are beautifully variegated with cream white. In some leaves the entire area is white, in others only half, while in others it is confined to interspaces between the nerves. For bright, effective use in any and all kinds of decorations, it is almost indispensable. Very easy of culture. 25 cents.

MEYENIA ERECTA.

(*Thunbergia erecta.*)

Africa. A most valuable plant for the open ground in South Florida, or as a pot-plant, producing through the summer beautiful, gloxinia-like flowers of the brightest blue color. 15 cents.

ANDROMEDA MARIANNA.

A handsome hardy shrub, producing in spring pink and white flowers resembling in shape the lily-of-the-valley. 25 cents each.

CESTRUM NOCTURNUM.

Jamaica, Chili, Mexico. The famous *Night-Blooming Jessamine.* The flowers are produced in great profusion; very fragrant at night; said to be the most valuable of all perfume plants; worth cultivation for this alone. 25 cents each.

DATURA, OR BRUGMANSIA SUAVEOLENS.

A shrubby plant, growing to a height of 6 to 8 feet in rich ground; flowers white, very large, trumpet shaped and fragrant; a most excellent plant for effect. 15 cents.

DURANTA PLUMIERI.

Tall-growing conservatory shrub; flowers blue, succeeded by yellow berries, which are retained all winter. 25 cents.

ACALYPHA MARGINATA.

The Acalyphas are magnificent plants with variegated leaves, and succeed admirably in the open ground in South Florida, sprouting up readily from the root if hurt by frost. Leaves of this variety margined with several shades, white, pink, etc. 25 cents each.

PLUMBAGO CAPENSIS.

(*Leadwort.*)

A most valuable old plant; can be kept in bush form, or trained as a climber. Flowers light sky-blue, produced continually. Stands drouth and water and the brightest sunshine. Should be cut back now and then, to produce more young shoots, on which the flowers are borne. Practically hardy in South Florida. 25 cents.

LEONOTIS LEONURUS.

(*Lion's Tail.*)

Free-blooming plant, with spikes of orange flowers. 25 cents.

PASSIFLORA.

Arc-en-Ciel. Flowers large, center white and citron colored, with outer circle dark; a rapid grower; an excellent plant. 25 cents.

Constance Elliott. Similar in habit to above, but flowers pure white; new. 25 cents.

RHYNCOSPERMUM JASMINOIDES.

(*African Jasmine.*)

Evergreen, with white fragrant flowers in April and May; a valuable, hardy climber. 25 cents.

TABERNAEMONTANA CAMASSIA.

West Indies. Splendid plants, with large, fragrant, gardenia-like flowers, pure white and produced in profusion. Tender. 50 cents each.

TECOMA.

(*Bignonia.*)

A valuable class of climbers.

Capensis. A choice climber. Flowers bright red; continually in bloom; nearly hardy here. 30 cents each.

Jasminoides. From Australia. White, with pink center. 30 cents each.

Radicans. Our native hardy *Trumpet Creeper*. A good climber for trees, walls, etc. Will climb on wood, stone, brick, etc. Flowers bright orange color. 15 cents each, $1.50 per dozen.

Stans. Locally known as *Yellow Elder*. In the fall a "glory of golden yellow flowers;" very quick-growing; delights in high, well-drained land; sprouts readily from the roots if cut down by frost, and blooms the same year; plants frequently make a growth of 8 or 10 feet the first year. Valuable as screens for unsightly fences, buildings, etc.; one of the most valuable flowering shrubs for South Florida. 25 cents each, $2.50 per dozen.

Stans, var. incisa. South America. Leaves more deeply cut than the common form. 50 cents each.

CAESALPINIA.

Regia (*Poinciana regia*). (The Flamboyante, or Royal Poinciana.) Madagascar. One of the most beautiful trees we have ever seen. Of extremely rapid growth; immense decompound leaves of a very dark, rich green; gives a striking tropical effect. In groups of tropical plants almost as effective as a palm. Specimens in this locality (killed to the ground in winter of 1886) were 25 feet in height, with spreading tops of the same diameter, at an age of only 4 years; trunks of the same nearly a foot in diameter; a perfect maze of orange-red flowers in May and June. The effect of the Royal Poinciana in the Park Isabella and other squares, and on the Prado, in Havana, is magnificent beyond description, from April to June. The tree is also common in Key West, and, with the exception of *Cocos nucifera* and *Cordia sebestena*, is almost the only tree that will grow on the bare sand and rocks of the Dry Tortugas. Fine pot grown plants, 25 cents each, $2.50 per dozen.

Pulcherrima (*Poinciana pulcherrima*). (The Barbodoes Flower Fence.) "Beyond it, again, blaze great orange and yellow flowers, with long stamens, and a pistil curving upward out of them. They belong to a twining, scrambling bush, with finely pinnated mimosa leaves. That is the 'Flower Fence,' so often heard of in past years."—*Kingsley.* Flower of this species, delicate orange and red. Should be more grown in the greenhouse at the North, as it flowers freely when a foot or two in height. It is a native of East Indies and tropical Africa, whence it was early introduced to South America and the West Indies. It has also been called "Spanish Carnation," "Wild Senna," "Barbadoes Pride," and its French name is "*Pounciade*," or "*Fleurs de Paradis.*" 25 cents.

JASMINUM.

(*Jessamine.*)

Jessamines are favorites everywhere on account of their combined beauty and fragrance. They are among the best of perfumery plants, many hundreds of acres being devoted to their culture in Italy and Southern France. (For the so-called "Cape Jessamine," see Gardenia, page 50).

Gracillimum (*Jasminum Gracillimum*). Is one of the most distinct in its graceful habit and in the abundance of its large, sweet-scented flowers, which are also more copiously produced. It appears to be a small species, with long, very slender branches springing from low down on the stem, and curving over on all sides, weighed down by terminal globose panicles. "A flowering shoot is produced from every joint, which terminates in a dense cluster of pure white, fragrant flowers."—*Saul.* 30 cents each.

Multiflorum. East Indies. White-flowered; a fine plant. 25 cents each.

Revolutum. North Hindustan and Nepaul. A yellow-flowered, hardy shrub, not twining. 25 cents each.

Sambac. (Arabian Jessamine). Flowers single, white deliciously fragrant; climbing. 25 cents each, $2.50 per dozen.

LAGERSTROEMIA INDICA.

(*Crape Myrtle*).

China, Cochin China and Japan. Too much cannot be said in favor of the delicate-flowered Lagerstrœmias; universal favorites in the South, and deservedly so. Deciduous shrubs, hardy in the Southern states, and producing throughout the summer, great clusters of delicately fringed flowers. In Florida and the South Crape Myrtle takes the place of the lilac, so common at the North. Makes the most charming flowering hedge known. A choice plant for growing in pots or tubs, and in universal favor. A success with every one.

Pink. The favorite old variety. In spring and summer plants of this variety are a mass of billowy flowers. 15 cents each, $1.50 per dozen; large trees, 50 cents each.

White. This is quite scarce, and very lovely. 25 cents.

Purple. A grand sort, producing immense quantities of blooms of a rich purple color. 15 cents each, $1.50 per dozen; large trees, 50 cents each.

LASIANDRA MACRANTHA.

"A magnificent plant, of good habit, and a most profuse bloomer; the flowers are rich violet-blue, between 5 and 6 inches in diameter and produced nearly all the year through."—*Saul.* 30 cents each.

CLERODENDRON.

A genus of widely different plants, embracing climbers, herbaceous plants, shrubs and trees. All desirable.

Balfouri. (*C. Thompsoni.*) A climber of great beauty. The flowers, which are of a bright scarlet, are encased by a bag-like calyx of pure white; the panicles of flowers are upwards of 6 inches in width. Free blooming. Sprouts from the root readily when top is frosted back. Excellent window vine. 20 cents each, $2 per dozen.

Fragrans. This half-shrubby plant is much neglected, and should be more grown by all, in the greenhouse North, and in the open ground in Florida, for its large clusters of double, pure white and exquisitely-scented flowers. Leaves and stalk ill-scented. 20 cts. each.

Siphonanthus (*Siphonanthus Indicus*). (Turk's Turban.) A good shrub for the lawn, producing immense terminal racemes of flowers, not showy, but followed by very showy red and purple berries, which remain on a long time. 25 cents each.

Viscosissima. An extremly desirable species. A tree with very handsome, showy flowers, hardy as far north as North Florida. 25 cents each.

COSTUS.

"Up we pushed along the narrow path, past curious spiral flags (*Costus*) just throwing out their heads of delicate white or purple flowers."—*Kingsley.* Native of Central America and Lower Antilles.

Speciosa. Leaves beautifully striped light and dark green, 2 to 4 feet in ultimate height. 35 cents each.

CRINUM.

These magnificent flowering bulbs are closely related to amaryllis and pancratium. Evergreen, of easy culture; in Florida in the open ground, at the North in the greenhouse. Many of the choice sorts rarely produce new bulbs, and consequently are very high priced.

Americanum. A most beautiful plant, producing umbels of large, white, lily-like flowers, often 6 or 8 to the spike. A native of the Florida swamps, but, like most of the Crinums, not particular as to soil or situation. One of the choicest of all the genus, and as "fickle fashion" has recently smiled on crinums and pancratiums, we can hope to see this grand plant in more general cultivation soon. 25 cents each, $2.50 per dozen.

Fimbriatulum. (Nassau, or Milk and Wine Lily.) A strong grower, not particular as to soil. Flowers in umbels, very large and showy, striped white and carmine, 3 to 4 inches in diameter. Exceedingly choice and desirable. 20 cents each, $2 per dozen.

ROSES.

The Rose has for all time stood at the head of the list as the Queen of Flowers.

"One spot exists which ever blooms;
Even in that deadly grove
A single Rose is shedding there
Its lonely luster; meek and pale
It looks, as planted by despair;
So white, so faint, the slightest gale
Might whirl the leaves on high;
And yet, though storms and blight assail,
And hands more rude than wintry sky
May wring it from its stem, in vain!
To-morrow sees it bloom again."

Successful Rose culture in South Florida has been heretofore a difficult problem, only on account of a want of adaptability of many of our most valuable kinds to this peculiarly trying soil and climate. It is a law of physical botany that a plant must be naturally adapted to the soil and climate to succeed.

The Tea Roses, as a class, are very much lacking in that respect, when planted in our sandy soils. They are our most desirable Roses, as they afford the greatest variety of shades and colors, and constant bloom. When grown from slips, the usual way, in greenhouses, and planted in South Florida soil, within a year they will, nine cases out of ten, die or "lead a sickly life at best." This is because they are in their physical organization unsuited to our peculiar soil.

By selecting for a stock our native Rose, which is vigorous and perfectly naturalized, and congenial in flowering habits, as well as uniting readily with other Roses when grafted or budded upon it, this difficulty is entirely overcome. This stock we find in the Arbor Rose, which in every way seems specially suited to our needs. Not only do these weaklings, when budded upon it, seem to take much of the vigorous nature of its new parent, but they become more prolific in bloom.

Price, Marechal Niel, 35 cts. ea.; other kinds, 30 cts. ea., $3 per doz.

TEA ROSES.

Aline Sisley. Good and desirable; deep, bright red; large, full and sweet.

Baroness Rothschild. Large, dark red rose; fine.

Bon Silene. Noted for the great size and beauty of its buds, which are valued very highly for bouquets and decorative purposes; deep rose color, sometimes bright, rosy crimson, occasionally pale, light rose.

Bride. Variable; white, tinged blush and at times silvery rose, like its parent, Catherine Mermet; a fine flower, but not constant.

Duchesse de Brabant. Soft, rosy pink, petals edged with silver; very sweet; one of the best.

Estella Pradel. Climbing habit; valuable in the South; lovely, pure white buds; flowers medium size, full and sweet.

Etoile de Lyon. This magnificent Tea rose originated at Lyons, France. Color beautiful chrome yellow, deepening at the center to pure golden yellow; flowers very large, very double and full, and deliciously fragrant; one of the very best roses of its class.

Hermosa. An old favorite, always in bloom and always beautiful; the flower is cupped, finely formed and full; color the most pleasing shade of pink, soft but deep; a very satisfactory member of the rose family.

King of Spain. Dark red.

Louis Richard. Flowers large and full, of fine form; color coppery rose, center deep rose; beautiful.

Mad. Bravy. White, shaded with pink.

Mad. Camille. A magnificent rose; extra large size, very double and full; immense buds; color delicate, rosy flesh, changing to salmon-rose, elegantly shaded and suffused with deep carmine; very sweet.

Mad. Joseph Schwartz. Pure white, elegantly flushed with crimson; large and sweet.

Mad. Lambard. A No. 1 rose; the flowers are extra large and full, very sweet and double; color a beautiful shade of rosy bronze, passing to fawn and salmon, beautifully shaded with carmine; the buds and the reverse of the petals are a deep rosy crimson; a most charming rose.

Mad. Scipion Cochet. A very charming and beautiful Tea rose of more than usual merit. Color a soft primrose-yellow, with rose shadings. Deliciously sweet-scented, and very unique in the size and shape of its buds. As this belongs to the Duchesse de Brabant section, its freedom of bloom is well known.

Mad. Welche. An extra-fine variety; very large, double and of fine, beautiful, rounded form; a soft, pale yellow, sometimes cream, with short inner petals of glowing orange and copper. Not to be forgotten if once seen.

Mrs. James Wilson. Flowers large and double; deep cream color, edge of petals touched with soft blush; flowers upright, on strong, stiff stems; an elegant bedding sort.

Papa Gontier. Bright carmine; reverse of petals purple; best on Manetti; a desirable variety.

Princess Sagan. A very strong, vigorous Tea rose, flowering in the greatest profusion, producing medium-sized buds and flowers; color bright crimson-velvet, shaded with scarlet, a most remarkable color among Tea roses.

Safrano. Bright apricot yellow, changing to orange and fawn, sometimes tinted with rose; valued highly for its beautiful buds; very fragrant, and one of the best.

Sombreuil. Creamy white, tinted with rose; very large and, according to our experience, the freest bloomer, the showiest and most thankful rose for general cultivation of all Tea roses.

Waban. A sport from Catherine Mermet; the most popular of all winter-flowering roses. Flowers borne on long, strong stems, in form somewhat larger than Mermet; color carmine-pink.

Zelia Pradel. White, with a yellowish center; half-climbing habit; excellent.

HYBRID TEA.

Captain Christy. The flowers are of magnificent form, very double, and stand erect in their martial bearing. Color a fresh, delicate pink, with deeper shading in the center of the flower, the whole flower possessing a bright, satiny appearance. It is a free bloomer.

Dinsmore. It is a vigorous, healthy rose, of dwarf, branching habit, and is simply loaded with flowers all summer long, being even more profuse than most of the tender "everblooming" roses. The flowers are large, perfectly double, and of a dazzling scarlet-crimson color, and have the rich, spicy fragrance peculiar to the best hybrid roses. We can recommend it as being the finest garden rose ever offered.

La France. One of the most beautiful of all roses, and unequalled by any in its delicious fragrance; very large, very double and superbly formed; it is difficult to convey an idea of its beautiful coloring, but the prevailing color is light, silvery pink, shaded with silvery peach.

Mad. Schwaller. A hybrid Tea, having the fragrance of La France and possessing the firmness, size and texture of the hybrids, with the freedom of flowering of the Tea class.

New Hybrid Perpetual Rose, Vick's Caprice. The flowers are large, ground color soft, satiny pink, distinctly striped and dashed with carmine. It is beautiful in bud form, being quite long and pointed, also showing the stripes and markings.

HYBRID REMONTANT.

Abel Carriere. Dark velvety crimson, color of Prince Camille de Rohan; large and well formed, good shape, and of the best.

Bessie Johnson. Light blush. Remarkably strong grower.

D'Euil du Colonel Denfert. Dark purple, velvety.

Gen. Jacqueminot. Fiery red; an old standard sort.

John Hopper. Deep rose, with carmine center, large and full, semi-globular; a free-blooming standard sort.

Paul Neyron. Deep rose; very large, good form and habit; very vigorous.

Pride of Reigate. This variety sustains its excellent qualities of a variegated perpetual bloomer, the proportion of well-striped flowers being above 75 per cent.

CLIMBING ROSES.

Caroline Goodrich, or **Running General Jacqueminot.** This new hardy climbing rose has finely formed flowers, very double, and its fragrance is most delicious. The color is the same as General Jacqueminot. It makes a growth of from 12 to 15 feet in a season.

Chromatella, or **Cloth of Gold.** A grand rose for the South; clear, bright yellow, very sweet and beautiful; blooms rather sparingly, but makes up for this deficiency by being wonderfully beautiful.

Climbing Devoniensis. Identical in all respects with Tea rose Devoniensis, except that it has the climbing habit; the flower is of great size, very double; a magnificent and beautiful variety.

James Sprunt. A climbing China; dark crimson.

Lamarque. White, with sulphur center, sometimes pure white; very large, full flowers, fragrant, and makes beautiful buds; an excellent rose; well-established plants bear thousands of its beautiful white buds.

Madame Alfred Carriere. Extra large, full flowers, very double and sweet; color rich creamy white, faintly tinged with pale yellow; exceedingly beautiful; a strong, hardy grower and frec bloomer.

Marechal Niel. A rose so famous as to really need no description; its magnificent golden yellow buds are worn the world over, and floral work without Marechal Niels is usually regarded as lacking a proper finish; the blossoms are the perfection of the globular form, and are borne in great quantities; as a climber it is unequaled, rapid in growth, graceful, and clothed with beautiful foliage.

Reve d'Or. A beautiful pillar rose, being a strong climber; color orange yellow or rosy buff; good size, full and sweet; known as Golden Chain.

POLYANTHA.

Clothilde Soupert. Flowers 1½ inches in diameter, beautifully formed; white, with rose or light carmine center; a constant bloomer; a desirable variety for cemeteries.

Jeanne Drivon. Flowers in corymbs; white, edged pink.

Mignonette. One of the most beautiful miniature roses. The flowers are full and regular, perfectly double, borne in large clusters, and deliciously perfumed. Color clear pink, changing to white, tinged with pale rose.

CHINA ROSES.

Louis Philippe. Rich, dark, velvety crimson, full and beautiful; one of the best for bedding.

Mad. Jean Sisley. White, slightly tinged pink.

Theresa Stravius. White, pale flesh center.

MISCELLANEOUS ROSES.

Souvenir de la Malmaison. A noble rose. The flower is extremely large, quartered and double to center. Color flesh-white, clear and fresh.

Washington. A strong, vigorous grower, and a constant and very profuse bloomer; the flowers are large, pure white, very double, and borne in clusters.

PALMS.

In the whole world of plants, the Palm stands pre-eminent. Linnæus called Palms the "princes of the vegetable kingdom," and they have held the throne of royalty for centuries. The cultivation of Palms is one of the most satisfactory branches of floriculture; and they are, without doubt, the most beautiful and graceful subjects for house culture at the North, or for the grand effects that may be produced by grouping the more hardy species on our Southern lawns. Palms are not hard to grow, and require a great deal less care than the majority of house plants. Give them a deep pot or tub to accommodate the long roots; have this amply drained and filled with rich soil, and re-pot once a year; give partial shade and plenty of water while the plant is growing, with an occasional sponging of the leaves to keep them clean and bright, and no difficulty will be experienced in growing small plants into fine and valuable specimens.

High prices have deterred many persons from purchasing these plants, and it is now our object to place a grand collection of them before the public at prices at which all may indulge their fancy for them, and at no greater outlay than for common plants. True, we grow some very rare and high-priced ones, but these are only offered to persons who can afford to buy them. Many of the low-priced ones are just as handsome, and from our stock of over a hundred thousand plants we can always make satisfactory selections. At the following prices, plants are sent free by mail, except when two prices are given; the higher price will indicate a much larger size, and such as can be sent by express only. Plants of the smaller sizes do not, in most cases, show their true characteristic leaves, but will be strong, well-rooted, pot grown plants, two or more years old, and if not already showing their true leaves, they very soon will.

ARECA lutescens (*Chrysalidocarpus lutescens*). India. One of the most elegent and useful palms; the rich, shining green foliage is very firm in texture; the plant is also a rapid grower, and with good treatment a small plant can soon be grown into a fine specimen. Our young plants all show character, and are unusually fine; we heartily recommend them. 60 cts. to $3 each.

ACANTHOPHŒNIX crinita. Small, graceful palm, armed with spines; arching leaves. 50 cts.

CHAMÆROPS excelsa (*Trachycarpus excelsus*). A quick-growing and very desirable palm. 20 cts. each.

COCOS plumosa. A rare and delicate decorative species from Brazil. 75 cts each..

C. Weddeliana. South America. One of the most elegant and graceful palms that has ever been introduced; well-known in every collection of greenhouse plants, and one of the most useful to the florist or for ordinary house culture; it easily endures the hardships falling to house plants. Beautiful little plants, 60 cts.

HYOPHORBE. "The palms comprising this genus are all massive and elegant objects, well deserving cultivation. They are frequently grown under the name Areca."—*B. S. Williams.*

H. amaricaulis. 25 cts. each.

H. Verchaffeltii. 25 cts. each.

KENTIA (Howea) Belmoreana. The Curry Palm of Lord Howe's Island. This is always enthusiastically received when seen, on account of its elegance and its well-furnished growth. An elegant species, in which the pinnæ are beautifully curved and reflexed. Very fine plants, showing true leaves, $1.50 to $4 each. (See page 64.)

LATANIA Borbonica (*Livistona Sinensis*). Southern China. One of the most popular palms in cultivation for decorative work, and, as it is quite hardy, it is a very suitable plant for open air culture in Florida. From this species are obtained the well-known palm-leaf fans of commerce. It is advisable with this, as with most other palms that are to be planted in the open ground, to give partial shade while plants are small. After they are once thoroughly established, they will grow rapidly, and finally attain a large size. They succeed admirably as pot-plants, and will thrive wherever a rose or geranium will, and with some attention the smaller plants will soon grow into fine specimens. Small plants, 15 cts. each; second size, 35 cts. each; large plants, from 6 and 7-inch pots, $3 to $3.50 each; large specimens, in 16 inch tubs, price on application.

LICUALA horrida (Fan Palm). 25 cts. each.

PHŒNIX reclinata. Natal and Zululand. This species produces an edible fruit; leaves gracefully reclinate. Very hardy. Cannot be too much planted for avenue or lawn use. Also grown largely as a pot-plant for the house. We have a very large and fine stock. 25 cts. each, $2.50 per dozen; larger, from 15 to 24 inches high, 50 cts. each, $5 per dozen.

SEAFORTHIA elegans (*Ptychosperma Cunninghamii*). A most graceful plant, eminently adapted for decorative purposes. This is quite well-known the world over for its feathery elegance and graceful character. The pinnate leaves are from 2 to 10 feet in length, dark green, and perfectly smooth. 50 cts each.

KENTIA BELMOREANA. (See page 63.)

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For the Farm and Household.

Any of these valuable books will be sent, postpaid, direct, on receipt of price. Be careful to write name and post office plainly, so that there may be no mistakes in mailing.

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